

Architecture and the City:
a study of the interdependency of forms

by
Andrzej Zarzycki
M. Arch., Politechnika Gdanska
Gdansk, Poland,
May 1992

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF SCIENCE IN ARCHITECTURE STUDIES
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
JUNE 1994

© Andrzej Zarzycki 1994. All rights reserved

The author hereby grants M.I.T. permission
to reproduce and to distribute publicly paper and
electronic copies of this thesis document in the whole or in part

Signature of the author

Andrzej Zarzycki, Department of Architecture
May 6, 1994

Certified by

Michael Dennis
Professor of Architectural Design
Thesis Supervisor

Accepted by

Julian Beinart
Chairman, Departmental Committee on Graduate Students
Rotch
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

JUL 14 1994

Architecture and the City:
a study of the interdependency of forms
by
Andrzej Zarzycki

Submitted to the Department of Architecture on May 6, 1994
in partial fulfillment of the requirements for the Degree of
Master of Science in Architecture Studies

ABSTRACT

My interest is in spatial and social patterns of architecture, specifically, the relationship between the urban pattern and the architectural form. The discourse of the relationship between urban design and architecture employs a vehicle to discuss the interdependency of forms in the built realm

There must be an investigation of the existence of these forms, their patterns, and their roles as a means of interaction between the architecture and urban realm. This concept generates the continuity of spatial experience which is essential in respect of aesthetics and social behaviors.

The mediating space between these two realms is critical to one's understanding of their relationship. Therefore, we will look at the facade and the arcade in this transition from public to private. These architectural components play a positive role in mediating between the ambiguity of an architectural object and an existing urban fabric.

We will then apply this understanding to a specific case study, Piazza della Santissima Annunziata in Florence. In this study, we will analyze the relation of individual monuments to the city as well as between themselves. We will carefully investigate the formal composition and the behavioral sequence. This search will define the interdependency of forms in architecture.

Thesis Supervisor: Michael Dennis
Title: Professor of Architectural Design

ACKNOWLEDGMENT

I am very thankful for the advice and direction afforded to me by the following individuals. I am grateful for their time and interest in this topic of study.

Michael Dennis
William Mitchell
Andrew Scott
David Friedman
Takehiko Nagakura

I also want to thank my friends for their encouragement, help and support.

Sowmya Parthasarathy
Jack DeBartolo III

and most of all I thank Malgorzata for her support, encouragement and love.

TABLE OF CONTENTS

Abstract	2
Acknowledgment	3
Objective	5
Introduction	5
Chapter 1	
The urban and architectural form follow a similar basic structure: <i>formal and behavioral patterns</i>	7
How in the past people understood relation of spaces through the way they drew.	7
The emergence of the pattern	9
What is the pattern?	9
Why the pattern?	10
The pattern as the predisposition of space, imposition of order and tradition: dialectic unity	11
Continuation of Patterns	12
A city as a collage of ideas and patterns	13
Chapter 2	
Elements and structures that mediate between the architectural and urban realm	14
Linear progression	14
Transitional sequence from public to private	16
A square and a building	19
Facade	21
Arcades and loggias	21
The need for communal spaces	22
The spatial aspect of patterns	23
A building as the integral part of the city	24

Scenographic perception	25
Chapter 3	
Case study of the Piazza della Santissima Annunziata	26
Historiographic note	27
Methodology of the Case Study	33
The city as a phenomenon	34
The organization and hierarchy of urban forms	35
Sequences of spaces within the city	36
The area of the Piazza SS. Annunziata as an integral part of the city	37
Changing perception of the square area: different plans different understanding	40
What is the urban edge?	41
The plan of the Piazza SS. Annunziata in the Nolli interpretation	45
The procession path as the dialogue between the church and the city.	47
City furniture as the link between the urban and architectural realm.	53
The courtyard and the square: visual sequence and spatial experience	56
The transitional sequence from public to private: Ospedale degli Innocenti	61
The sequence that involves a group of buildings as well as the city.	66
The relation of private buildings to the city	69
Chronological evolution of the square	71
Conclusions	73
Bibliography	75
Appendix	77
Credits of Illustrations	78

Objective

I am concerned about a dialogue, either designed or evolved in time, between an architectural object and the surrounding form of the city. An architectural dialogue is imperative for the creation of a good habitat. Patterns are not particular to *either* architecture *or* urban form, but rather to architecture *and* urban form. Thus, I understand that architectural and urban design are based on one concept of space. Those patterns construct the language of design and are helpful in comprehending spatial relations in the city.

Finally, I will demonstrate (showing the previously mentioned patterns) that architecture does not end with the external elevation of a building just as a city is not limited to the facades of its streets. There is only one approach that accommodates people and their behavior within a space and that approach is called architecture.

Introduction

In the past, there was a certain unity between urban and architectural forms. This unity was manifested through the relationship of buildings, spaces, and patterns within a city. Buildings and monuments surrounding plazas created space for people to live and move around. At the same time, people brought life into and created the need for those buildings.

This form of the city resulted from a global rather than from a particular approach to design; the city was seen as a consistent artifact full of inner richness, not just a random accumulation of independent elements. That mutual respect, of both public and private realms, was based on an agreement and commonly accepted hierarchy and values. This hierarchy was manifested by a degree of architectural treatment and importance given to monuments.

The whole division between architectural and urban design seems to be a modern concept. As we see in old architectural treatises, buildings such as basilicas or churches were usually discussed in the same sections as forums, and were categorized within the same group of artifacts. The similarities between the social and formal patterns of such spaces were much better understood and appreciated than were their differences in scale.

In the past, both spaces were treated as belonging to one domain. The division line was not drawn through architectural and urban, but was rather established by social criteria such as public-private, common-individual. This thinking was applied and the solutions were based not on scale but on functional and social objective, resulting in a similarity of patterns within a city.

In a modern city a meaningful dialogue between the *res publica* and the *res privata* is missing. This leads to the impoverishment of the urban spatial morphology. The separation between architecture and urbanism became visible when : " Free standing object buildings began to replace enclosed public spaces as the focus of architectural thought, and despite some resistance during the nineteenth century, this formal transformation--from public space to private icon--was finally completed in the early twentieth century. The demise of the public realm was then assured."⁵

The absence of concern in modern cities for the space between buildings as anything more than a source of sunlight, fresh air, and an easy access resulted in unstructured spaces devoid of articulation and thresholds. A meaningful orientation within urban space has become difficult. Without such spatial articulation of the public realm, the city has become unintelligible. Modern buildings are precious architectural icons sitting in a nowhere land with no reference to an urban spatial morphology.

Communication spaces, such as arcades, courtyards, and vestibules that mediate between two realms of urban life and which create a certain ambiguity and richness, are nonexistent. The facade as a form of dialogue between the *res publica* and *res privata* is meaningless as it is reduced to merely reflecting

on the outside the function of the inside. The facades of modern architecture communicate so little because the urban space has been lost.

At present, urban spaces are reduced to mere access spaces having the character of fire egresses. They are designed for quick and easy entrance and exit, rather than with the concern of stimulating meaningful social interactions. The neglect of these spatial and social links is the logical consequence of the spatial involution of modern architecture with its disregard for urban concerns.

The divorce of modern architecture from the city and the subsequent lack of any spatial articulation of the urban public domain disrupts a century-long relationship between the whole and the parts of the city, between urban spatial morphology and the typology of the building. Concern for the quality of urban space was replaced by organization based on functional and quantitative, not social and aesthetic principles. Only the building types remain. These separated and mutually unrelated architectural objects constitute the urban built environment of the modern city.

With concern for this present urban predicament, the investigation of Piazza della Santissima Annunziata is undertaken. I will reexamine the 'edge' between the private and public world. The 'edge' as an ambiguous territory between

⁶ the public and private world is at the same time a part of both

⁵ see p.1 *Court and Garden*, Michael Dennis

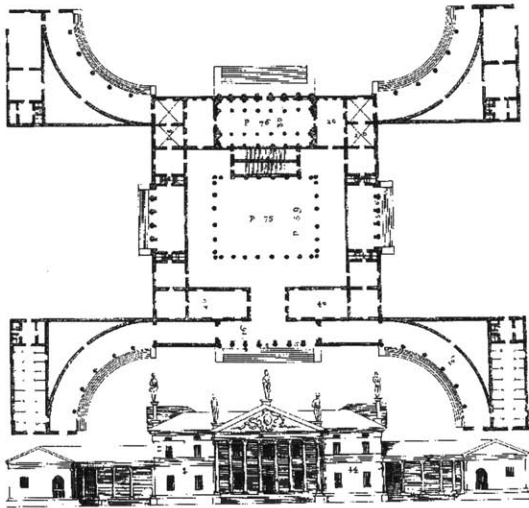
worlds. This territory establishes the dialogue between architectural and urban form. However, to be successful this dialogue must be continued on both sides of the 'edge'. That fact recognizes facades, arcades, and loggias as essential elements of the city fabric. A continuation of these elements in form of a city wall or screens is essential in defining urban spaces.

Chapter One

How in the past people understood relation of spaces thought the way they drew.

Old drawings best illustrate the aforementioned unity between architectural and urban form. Both realms were designed according to aesthetic, geometric, and philosophical principles, not through poorly understood functional efficiency. This does not mean that the function of the building was completely ignored. Rather, it shows a strong concern for typological and formal patterns as a source of spatial organization and hierarchy.

In plans by Andrea Palladio, we see the realization of these ideas. Some partition walls and doors are omitted from a plan. Obviously, the architect considered them not crucial for the expressed in the drawing concept. What did seem to be important was an arrangement of spaces, their interrelation



The graphic representation of a building was similar to that of urban spaces; Andrea Palladio

The Nolli plan of Rome shows the same approach on a larger, urban scale. The whole city is represented as a unified, though complex, structure with thresholds and breaks rather than discontinuities. The aspect of access is secondary, apparently assuming that people can perceive patterns beyond the facades of the buildings. The concept of publicness created by Nolli does not restrict the public space as contained within urban or architectural form.

These drawings give us an understanding of how people experienced space in the past. Doors or curtains might divide space into different levels of access or different groups of users, but the character of those spaces was determined by spatial

sequences and their relation to others monuments in the city. It was, and still is, based on the human perception of space and behaviors; we look at things comparatively, through our relation to others. This is a way we can establish our identity and express ourselves.



The Nolli Plan of Rome from 1748 ;he concept of publicness goes beyond the division into the architectural and urban form.

The emergence of the pattern

To experience architecture is to experience a variety of patterns as rich as human nature itself. The courtyard is an example of such a comprehensive pattern which can include the ideas of atrium, cloister, castle, and square⁶. These archetypal themes are essential ways of making space and of organizing groups of spaces independent of scale or culture. We can see reflections of those themes in countless idiosyncratic buildings and urban settings.

The origin of a particular form or pattern is beyond our understanding. We can, however, observe its persistence. Those patterns that persist do so because they resonate strongly in human experience and, as a result, are chosen again and again. However, clear reasons for those choices cannot be articulated because such motives make up an elusive web of conscious and unconscious needs, desires, and associations.

The importance of a building does not lie solely in a formal pattern of organization, and emphasis on common themes does not lessen the importance of a unique work. Many indifferent buildings stem from archetypal diagrams. Ultimately, the building itself has architectural value. The individuality of a work, however, can be defined only when

⁶In each of those cases, the pattern organizes elements around the central point.

the building is placed in relation to others of a similar formal pattern.

These patterns also give us an understanding of the functional flexibility of architectural and urban artifacts. Thus, transformations of outdoor streets into roof covered arcades, and the conversion of churches and large buildings into squares are natural possibilities for those artifacts. These possibilities should be explored and may be realized in the future.

What is a pattern ?

My understanding of the term 'pattern' is close to that defined by Christopher Alexander in the *"Timeless way of building."* Alexander talks about two kind of patterns: the pattern of events and the pattern of space. The character of place is given by events that take place frequently there. On the other hand, these events are interlocked with certain geometric patterns in space. This double focus on human as well as spatial patterns is crucial for my studies. While analyzing the Piazza SS. Annunziata I will refer to both these ways of organizing the space talking about formal and behavioral aspects.

Universality and persistence are important features of patterns. "Of course patterns" says Alexander, "vary from place to place, from culture to culture, from age to age; they are all
9 man made, they are all depend on culture. But still, in every

age and every place the structure of our world is given to it, essentially, by some collection of patterns which keeps on repeating over and over and over again.

These patterns are not concrete elements, like bricks or doors -- they are much deeper and more fluid --and yet they are the solid substance, underneath the surface, out of which a building or a town is always made". ⁷

The pattern can be interpreted as a fabric of the city. This is the basic and most common understanding of that term. However, in my interpretation a pattern is any logical relation of objects, a formula. It is not associated with any particular scale or graphic representation but rather with a theme with the inner logic of an artifact or of a place. In the widest sense pattern can be understood as the way a space is organized and perceived by our minds⁸. As such, pattern should give the user an understanding of space even when that space is not physically accessible. It is comprehending things that are beyond our immediate experience. Thus, pattern should give us an awareness of things we do not experience directly.

Why pattern?

In the past, patterns were treated as the easiest and perhaps best way to memorize ideas. Their usefulness was based on the

⁷ see p.100 *Timeless Way of Building*, Christopher Alexander

⁸while discussing the procession road I will refer to this wider understanding of the term pattern.

simple fact that memorizing the formula does not require understanding it. Thus, in times of traveling masons or even more recently, patterns were a safe and convenient way to encode knowledge that could be used by less educated craftsmen, as well as preserved for future generations. That is why each epoch created its own spatial language to communicate its knowledge. This is illustrated in gothic geometric systems or in the ancient concept of module.

Subsequently, those patterns and geometrical associations acquired meaning. The meaning was often specific for a certain period, but there were also more universal elements common to all cultures. These meanings are associated with harmony, symmetry, central point, and line as an idea of progression.

In more recent times, patterns were often misunderstood as a mindless way of designing, and using them was seen as a lack of creativity. That attitude resulted from a superficial understanding of the idea of patterns as strictly graphic representations and also from a misinterpretation of the term 'creativity'. Creativity does not mean designing in empty space, not restrained by existing conditions. It is incorporating an idea into a context with all its functional, social, and formal aspects. Designing is the ability to make an agreement and to optimize local possibilities.

This interpretation of design is not specific to
10 architecture; it is a much larger concept of creativity. John

Irving mentions this in his book: "Life according to Garp". Some of this thinking can also be found in words of Stravinsky.⁹ This proves that assuming restricted conditions [a certain spatial pattern in our case] in design does not limit architectural solutions, but it may even enhance them. Using patterns within restricted conditions can create unique artifacts which are commonly understandable.

At present, we have rediscovered patterns with their strong social and human factors. We know that the pattern is merely an illustration of things. Primarily, it is the way we experience space. These patterns can be individual, but most likely they are collective, embedded in our culture and history. They form a base for common perception and judgment. Similar to medieval masons encoding their knowledge in the geometry of stones, humans form more or less coherent regularities of behaviors, expectations, and aspirations. And those regularities can be rediscovered as patterns that can acquire an architectural form. We can analyze them using their graphic representation, but we do not reduce them to a graphic aspect only.

In conclusion, a pattern is merely a graphic representation; primarily it is a representation of ideas, a way of communicating a commonly understandable message. A street terminated by a church is a legible message for some cultures,

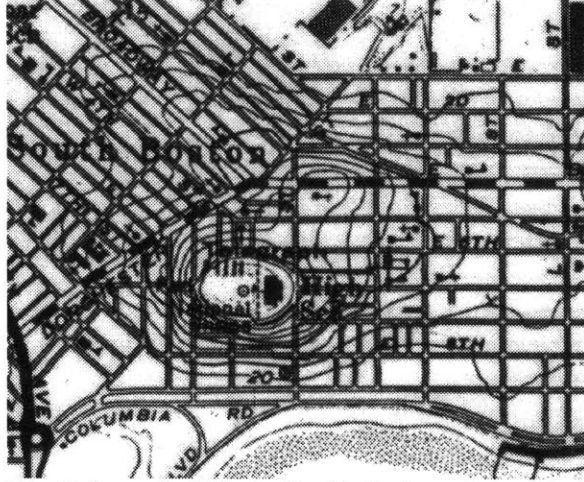
just as Jefferson's grid is for Americans. Various cultures may have different understandings of a particular pattern, but there are themes common to most, if not all, cultures. Thus, patterns are a means of communicating and preserving knowledge, or ideas. Form is a materialization of patterns, and conversely, pattern is an abstraction of form.

Pattern as predisposition of space, imposition of order, and tradition: *dialectic unity*

Space is not equal although it may seem so for us. Although it is continuous and follows certain general characteristics, it is also full of local forces and features. The concept of *Genius Loci* is an expression of that phenomenon. Patterns, in this situation, have the dialectic function of creator and 'createe', as unrestricted idea and as a determinant of space.

Patterns, as sources of ideas, often reveal the original features of the site. In old settlements, the pattern emerged often as a trail along a stream, as a notch, or a ford across a river. We can see this situation in countless examples of Greek and Medieval towns. There are also more recent examples such as Telegraph Hill in South Boston.

⁹ see p.85 *Poetics of Music ...* , Igor Stravinsky



The Telegraph Hill in South Boston, the oval street fits into topography of the city.

A pattern can also serve as an imposition of order. Sometimes it will refer to a central ideal, another time it will impose artificial 'prints' on the landscape, as does the Roman Campus.

In each case, pattern is visible as a logical relation of artifacts and existing possibilities of the environment often referred to as *Genius Loci*.

A pattern can cover a city, it can be extended into the countryside or from the surrounding countryside into the city (centuriato). In the most beautiful cases, the cosmic pattern of a city or a region enters the microscale of an building. It is not important whether it was designed or derived from possibilities embedded in nature; important is generated a quality of space.

Continuation of Patterns: *morphological continuum-*

Patterns are not specific to *either* architecture *or* the city, but is common to both architecture *and* the city. Since they are not subordinate to this simple classification (into the architectural and urban form), they can exist as independent structures associated with compositional arrangements or social activities. In order to maintain this independence and unity, patterns have to spread continuously between two realms. Continuity with the flexibility to accommodate change in scale is an essential feature of these patterns.

That facades of buildings create the walls of the public space and that these buildings are shaped by streets and squares is more or less obvious. The articulation of the facade such as placement of doors and windows responds to the square, axes, other monuments, and finally to the geometry of the whole city; these arrangements, by their very nature, are transmitted to the inside and inform architectural spaces within the building.

Also, social behavior and patterns do not change or disappear when moving between architectural and urban scale. These patterns are altered to suit conditions and characteristics for a certain scale, but such movement does not disrupt their continuity.

Continuation of spaces is associated usually with moving from one space into another, with articulation, thresholds, and various breaks playing major roles in shaping architectural and urban spaces. In each case, a preceding space in a sequence relates to succeeding spaces.

The city as a collage of ideas and patterns

In my compositional studies of the city and of architecture, I follow ideas expressed in the Nolli plans of Rome, where the city is understood as a collection of different interrelated patterns and sequences.

A city is more of a collage than a singular and coherent fabric. This description of the city introduces a variety of patterns and stresses the importance of a dialogue between them.

"We know now that every building and every town is made of patterns which repeat themselves throughout its fabric, and that it gets its character from just those patterns of which it is made."¹⁰ These patterns would interact and overlap with each other, sometimes even leaving "black holes". These patterns are present not only on an urban scale but also engage in a dialogue with architectural artifacts. Their spatial

interaction is visible on ground floors, in basements, as well as on upper floors and attics. The collage becomes the spatial web of referenced and related patterns. That description of the city is probably best visualized by the chaos theory of universe that imagines the universe as cubes of ice flowing freely in water.

¹⁰ see p.105 *Timeless Way of Building*, Christopher Alexander

Chapter Two

The elements that mediate between two realms

The elements discussed in this section will be used to analyze the Piazza della SS. Annunziata, the church of SS.

Annunziata, and the Ospedale degli Innocenti with the surrounding fabric of the city in the third part of this thesis.

Linear progression

Progression is often understood as engaging in ritual, as approaching or leaving, as marking space by time and events. It always relates to the destination and can be measured not only by proximity to the goal, but also by distance covered.

Progression can be conveyed by a difference in the quality and articulation of the space itself. Such a sense is achieved by a typical progression sequence which consisted of a street or a square, loggia or a doorway from the plaza, a vestibule, and a monument. The *holy ground* is an example of such a pattern. Its social and experiential character was described with great insight by Christopher Alexander in *Pattern Language*,

*"Even in an ordinary Christian church, you pass first through the churchyard, then through the nave; then, on special occasions, beyond the altar rail into the chancel and only the priest himself is able to go into the tabernacle."*¹⁴

The feeling of engaging in escalating hierarchy is a characteristic feature of the progression. The sequence of highly articulated spaces was the backbone of each city and one of the major constituents of its morphology. In a morphological continuum, these spaces connected the city, spatially represented by streets, plazas, courts, arcades, and galleries, with monuments and residential buildings.

¹⁴ see p.333 *Pattern Language*, Christopher Alexander

The importance of the linear progression pattern is in its role as a connector of urban and architectural scale. Linear progression associates spaces with different functional and social characters into one larger structure. These associations may be ephemeral, related to the certain event, but in spite of this, they create a mental map of relations. Such maps will exist for a long time. Later I will illustrate this pattern in a case study of: via Servi, Piazza SS. Annunziata, and the church.



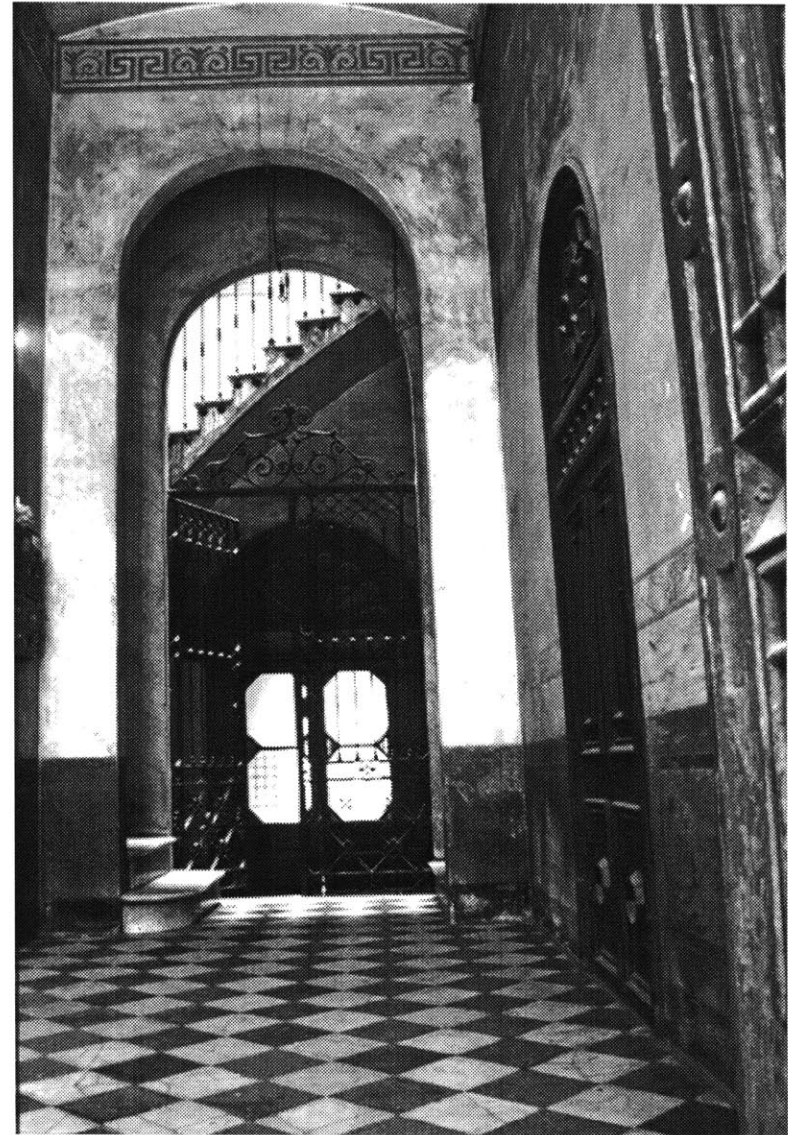
The facade terminates the street, but portal creates a gate into the nave of the church, and the geometry of the street is carried in the form of nave inside of the church. The portal, with its opened door, functions more as a gate than as a termination point. Portal of Duomo, Orvieto

The transitional sequence from public to private

The transitional pattern from public to private spaces is a particular example of linear progression discussed above. Although this progression no longer refers to the destination as a goal and is not designed to stimulate emotions, it uses a similar set of thresholds and articulation. This transition is often formalized into a succession of spaces: a gate or doorway from the square, street, or arcade into a courtyard, an open stairway leads into inner hallway which finally directs one to the door of the apartment.



transitional sequence in a private house

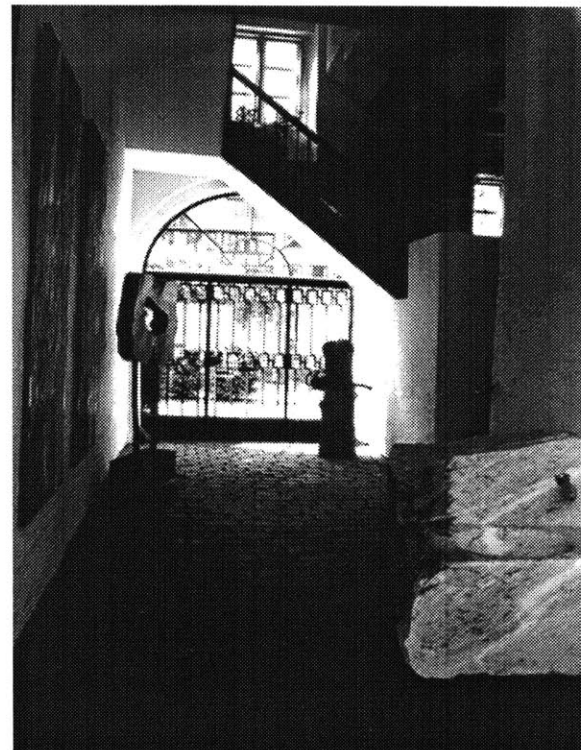


16 *the hallway as a communal space*

This sequence gives an opportunity to observe the inner, social life of buildings which is essential in creating small communities within a city block or a precinct. As you move through inner courtyards and hallways, the buildings "speak" to you about their residents.



The transition starts with the doorway ...



...and leads through the hallway to the apartment

The transition sequence of highly articulated spaces was the spine of the building and one of the major constituents of its typology. In a morphological continuum, these spaces connected the city, spatially represented by streets, squares, courtyards, arcades, and galleries, with the private house.

An important part of the transitional sequence is a visual connection between these two worlds. The fact that we can see things behind facade walls gives us a better understanding of our relation to the city. *"The sight of action is an incentive for action"* writes Alexander, *"When people can see into spaces from the street their world is enlarged and made richer, there is more understanding; and there is the possibility for communication, learning."*¹⁵



Gates and windows enable us to penetrate interiors.

This projection of internal activities on public domain is one of the ways to create a dialogue between the public and private world. Not only does the partial exposure of private courtyards connect the individual world with a community, but it also relates those two worlds spatially.

¹⁵ see p.774 *Pattern Language*, Christopher Alexander

of publicness. Not everybody wants to live in an isolated private world. There are people that tend towards communal spaces and activities. This variety of people's behavior and expectations can be translated into a rich, multilayered city fabric.

It would be wrong to say that only the public world tries to penetrate the individual world through various windows, gates, and screens. As a matter of fact, the private world is usually oriented towards monuments and squares, benefiting from their view and their perspective. It is not a surprise that for an apartment with the window on the Eiffel Tower one is supposed to pay more than for a similar one with the view of an inner courtyard. And it is not the issue of sunlight or fresh air, but of a window with a view.

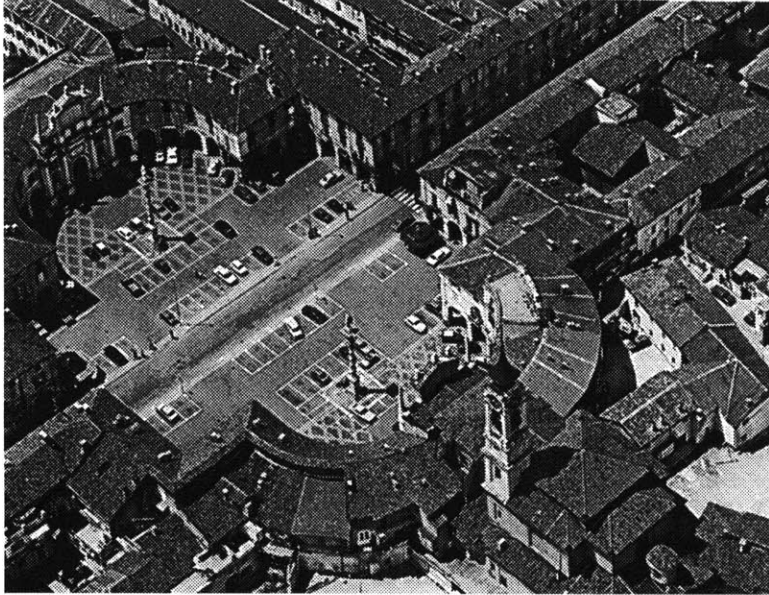
There is a countless number of architectural buildings that make use of this phenomenon. The "Chapel on the Water," by Tadao Ando is a recent one. The inner space of the church is extended over the site incorporating surrounding landscape into the architectural object. The lake serves as the presbytery with the cross in the center. Although it is not an urban example, we should learn and apply this experience in an urban environment.

A square and a building

The relation between the urban space and a building, the square and the facade, illustrates the strong connection between what we used to call the architectural and urban form. A square needs walls to be defined. These walls give the square a certain shape and height. Their opaqueness or transparency closes it or opens it to other spaces in the city. Similarly, buildings need space in front of them to be appreciated as well as for people to enjoy the view, sun, and fresh air while being inside.

This relation is discussed in beautiful terms by Camilo Sitte¹⁶: "Each noteworthy facade gets its own plaza. Conversely, each plaza obtains its own marble facade. And that is a fair exchange, since these costly stone facades are relatively rare, and they are, indeed, most desirable for any plaza, because they lift it out of the commonplace". This almost ethical criteria of exchange connects the building to a public square. It shows a very humanistic belief that giving more is getting more.

19 ¹⁶ Colin Rowe and Fred Koetter in *Collage City*, p.77



The Piazza dell' Annunziata in Venaria Reale

There is a great variety of examples showing the relation between a building and a square. One of them is Piazza dell' Annunziata in Venaria Reale. It is difficult to say which is more celebrated, the church or the square, or the city with that interesting composition. We cannot deny that the square was designed to extend the space of the church, which is additionally emphasized by two free standing columns situated on the main axis of the church. On the other hand, urbanistically, the church is balanced by a mirror like reflection of its facade on the opposite side of the square. This eternal dialogue between the church and the piazza is so strong

that it is impossible to determine what is the subject of this arrangement.

Similarly, Piazza Navona and Sant' Agnese church create this kind of dialogue: "the piazza and the dome [of the church] are the irreducible protagonists in a debate; the piazza has something to say about Rome, the dome about cosmic fantasy; and finally, via a process of response and challenge, both of them make their point"¹⁷. Later the authors add that reading of the church "continuously fluctuates between an interpretation of the building as object and its reinterpretation as texture; but, if the church may be sometimes an ideal object and sometimes a function of the piazza wall, yet another Roman instance of such figure ground alternation--of both meaning and forms."

We can perceive the relation of these two structures either as a competition or cooperation. In each case, they form a very strong composition that seems to be inseparable.

The facade

On the very edge of the building and square there is a facade. The facade plays an important role as a medium of communication between the public and private realms. Even though the facade is an integral part of the building and is usually associated with an individual, it forms an 'intimate' and meaningful dialogue with the street. Coexistence and interaction of the facade with the outer world become imperative. Like a business card, it presents personal information while follows a common format. A facade needs open space associated with it, as much as streets or squares need terminations and dominating elements. This meaningful relation was rightly described by Camilo Sitte¹⁸ that each public building deserves a square and each square deserves a splendid facade.

A facade responds to the street, but, at the same time, it is an integral part of the architectural object. This relation can cause difficulties in architectural composition of the building. We can observe this in various buildings, facades perfectly responding to the geometry and character of the street is not always best suited to fulfilling requirements of interior spaces. That conflict of interests is common for medieval and renaissance buildings that were developed to fulfill the best possibilities of that site, relating to the street, and optimizing

¹⁸see footnote 16

interior spaces, light and air. The result was often very sophisticated and complex structures, structures that tried to fulfill their function while subscribing to morphology of the city. In effect we come across many deformed buildings. But, we should not consider them to be negative. These deformations were very helpful in producing variety in interpretations of a type. In modern times, the facade as a medium of communication is meaningless as it is reduced to merely reflecting on the outside the function of the inside. This attitude, while solving some architectural problems, destroys long-lasting relationship between the public and private world.

The arcade and Loggia

Facades, loggias, and arcades define the edge of the public space. The importance of that edge was described by Christopher Alexander : "The life of a public square forms naturally around its edge. If the edge fails, then the space never becomes lively." ¹⁹ The importance of the edge was also recognized in Ancient Rome by placing monuments and statues on the forum along its edges.

The role of edge further develops the need for structures such as arcades and loggias, which are covered walkways partially inside, partially outside of the building. Through

¹⁹ see p.600 *Pattern Language*, Christopher Alexander

this, they play a vital role in the way that people interact with buildings. Their typological ambiguity²⁰ help them to mediate between two realms of urban life.



The loggia facing the Piazza della SS. Annunziata

"Buildings are often much more unfriendly than they need to be"²¹ writes Alexander. This occurs because buildings do not create the possibility of interaction with the public life outside. and because "there are no strong connections between the territorial world within the building and the purely public world outside. There are no realms between the two kinds of space which are ambiguously a part of each--places that are

²⁰belonging to the street on a ground level and private on upper levels.

²¹ see p.581 *Pattern Language*, Christopher Alexander

both characteristic of the territory inside and, simultaneously, part of the public world.

The classic solution to this problem is the arcade: an arcade creates an ambiguous territory between the public world and the private world, and so make buildings friendly."²²

The need for communal spaces

When we look at squares, streets, and other public spaces, we often treat residential blocks as background for foreground actors-monuments. We consider those spaces differently because they are the place where social life occurs.

Basically, these two discussed realms--public and private--follow the same pattern. The pattern, probably the most fundamental one, requires the placement of public spaces where private meet. Kahn described the way it evolved: "the street is dedicated by each house owner to the city in exchange for common service."²³ The need for such a "service" was expressed by Ch. Alexander: "Each subculture needs a center for its public life: a place where you can go to see people, and to be seen."²⁴

²² ibidem

²³L. Kahn, *The room, the street and Human Agreement*

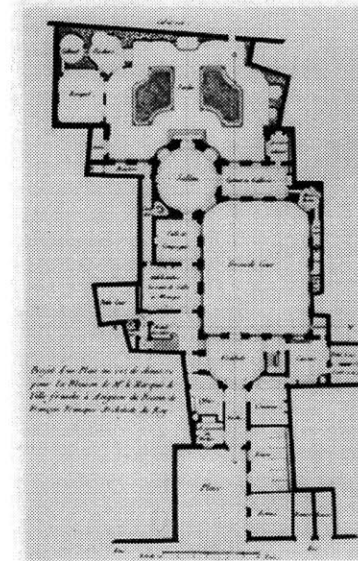
²⁴ see p.169 *Pattern Language*, Christopher Alexander

An interesting feature of this pattern is that it relates building to the square, apartment to courtyard, and a room to atrium in a house. It is valid on different levels of organization of society. It also shows the necessity of coexistence of public and private, communal and individual spaces independently of scale.

The spatial aspect of patterns

Relations between spaces can also be distributed spatially. The continuation of patterns occurs not only in plan, but is naturally transmitted to lower and upper floors of buildings. Certainly, structure plays an essential role in dictating requirements for the continuity of walls and pillars. But the arrangement of interiors in upper floors seems to be not restricted to construction alone.

The relation between the public world of the city and residential blocks, is similar to that between the piano noble of palaces and their upper, less significant floors. That basic pattern that divides the space into public and private, formal and informal, reflects the basic character of human activities and may be found in both, urban and architectural scale. It is characterized by the gradual deformalization of patterns and change towards the individual shape.

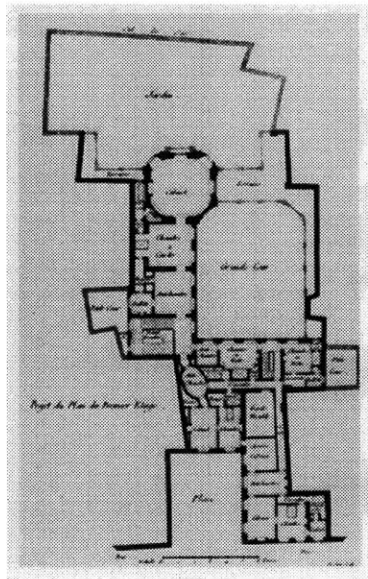


the ground floor

We can see this phenomenon in illustrations above²⁵ where pattern is continued inside of the palace more clearly on a ground floor, less on the upper floor where main directions becomes less organized. That is visible especially in the central part of the building above the vestibule. Only some main features are repeated. It is true also for individual houses where more private functions are usually located on upper floors, leaving ground floors for living rooms and stores.

²⁵House for the Marquis de Villefranch at Avignon. Plans of the ground floor and first upper story. From:

Diderot/D'Alembert, *Encyclopedie, Recueil de Planches...*, I, 1762, [p.61 Daidalos 15, March 15th, 1985]

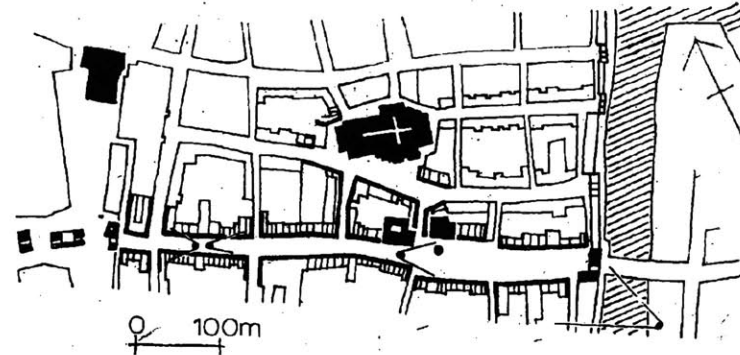


upper floor

A building as the integral part of the city

In this section, I will discuss the situation when the space of a building is functionally incorporated into the city fabric. Considering a situation where a church or market hall serves as a shortcut through the residential block linking two squares or streets. Often that link is the only remnant of the previous street that, as a result of accretion, was obstructed by a building. In such a case, the physical structure of the street disappears, but it still functions as a traffic connection and as people's paths. And the reason for this is not memory of the

past, although it might play a part, but morphological 'convenience' (structure).



The Mariacki church responds to the urban context

The Mariacki church in Gdansk is an example of this. The large volume of the church, being one of the largest public spaces in the city, relates its facades and doorways to the street network of the city. Although the church visually terminates them, it extends them functionally and links with others.

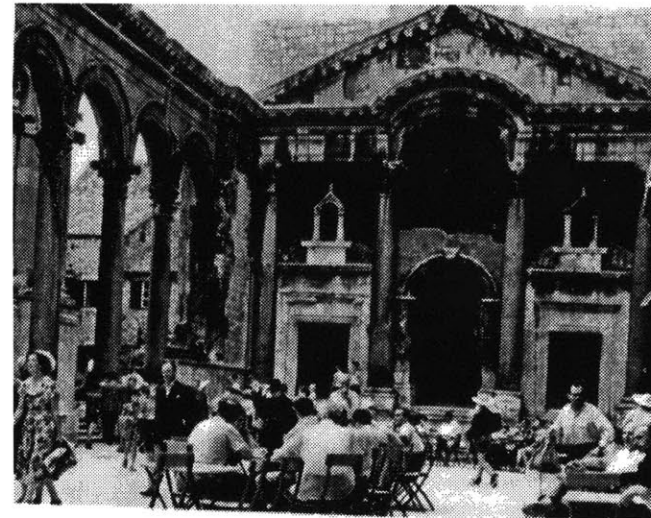
In a similar way, Jork Passage in Copenhagen extends the street and links with the small square by opening the inner courtyard of the block. The internal court evolves to be more significant than external elevations of the building. (image below). These are just a few examples of a lively dialogue between the architectural and urban world. The dialogue that leads to the interdependency of participating elements. It also illustrates that architectural form and typology can easily be adapted into the urban form.



Jork Passage in Copenhagen

The scenographic perception

Independently of scale, a scenographic character of the space creates certain images in an observer. Small intimate plazas, although they have an intended public character, subscribe to the private realm through their scenography and informality. Analogically, small courtyards and halls "pretend", by their formal geometric arrangement to be monumental public spaces. This scenographic aspect is often applied to break the division between the public and private world into greater variety of thresholds and breaks. At the same time, the scenography preserves the continuity of perception while moving from one space to another. I will discuss this fact later referring to the inner courtyard of the Ospedale degli Innocenti. (*Cortile degli Uomini*)



25 *Peristyle, the Palace of Diocletian.*

Chapter Three

The Case Study of the Piazza della SS. Annunziata in Florence

This case study covers the area of Piazza SS. Annunziata with its surrounding buildings including the Ospedale degli Innocenti by Brunolleschi, the church of Santissima Annunziata redesigned by Michelozzo, with the dome designed by Alberti. This splendid collection is completed by several patrician residences, one of them Palazzo Budini Gattai, and furnished with sculptures by Giambologna.

The nature of this thesis, interdependency of urban and architectural forms, makes it necessary to extend the immediate area of the square over adjoining city blocks. My main concern, however, will be directed towards the piazza with its surrounding buildings.

The Piazza SS. Annunziata with its adjusting buildings creates a magnificent urban setting full of interesting ideas and geometric patterns. Through computer modeling, I will analyze its spatial character and discuss in detail the persistence and continuation of existing patterns.



The loggia of the Ospedale degli Innocenti

Historiographic note:

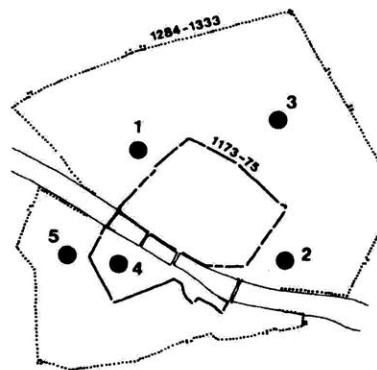
The earliest information about the area of the present Piazza della Santissima Annunziata can be traced to the XI century, where in 1072 a small oratory was built to commemorate the victory of Pope Gregory VII over Emperor Henry IV. During the following century the oratory was incorporated into a hospital run by Franciscans who stayed there till 1225 when they moved to the area of S Croce.

The formation of the *Ordine dei Servi di Maria* still remains unknown, but the founding of the Order can be placed in 1233. On 1 July 1250, Enrico di Baldovino dell' Anguillara bought a piece of land in Cafaggio near the Porta de Balla, outside the city walls, for the "*Conventus Ecclesie Sancte Maria de Monte Sonnaio*".

Work on a new oratory began almost immediately. On 8 September 1250 the cornerstone was laid by B. Bonfigliolo²⁶. The fresco of *Annunciation*, from which the church's name derived later, was started in 1252 by Bartolomeo. Upon the competition of the painting it was discovered that the image of *Annunciation* worked miracles. Not surprisingly, this fact soon came to play a dominant role in the life of the church²⁷. Once the fame of this *Annunciation* as a miracle-working image

spread beyond the convent, pilgrims began to visit the small oratory.

Although S. Maria dei Servi, as the church was originally named, remained outside of the city walls, the connection to the church was facilitated by the opening of a new street in 1255 which led directly to a large piazza marked out in front of the Servite complex²⁸



The church of SS. Annunziata (number 3) in relation to the city walls

An increasing number of pilgrims visiting the church and growth in membership of the Servi Order made the enlargement of S. Maria dei Servi necessary. This stimulated larger changes to the still gothic, basilican in form church. At the eastern end of the church the main chapel was added. Around the same time, the transformation of preexisting

²⁶ ibidem, p.14

²⁷ ibidem, p.14

²⁸ ibidem p.15

basilica into a single nave church with side chapels was done. Three chapels, S. Lucia (1364), S. Niccolo (1369) and Sant' Antonio (1371) had been built along the right flank at the west end of the church into the side aisle. The high demand for chapels was a result of the popularity of the church between Florentine patrician families.

SS. Annunziata, as the church was now often called, had become totally dominated by the presence of the miraculous image. As the cult grew, so did the need for the space: to accommodate the worshipers, to build chapels, and to house the Order. By the mid-fifteenth century the shortages were so acute that the only solution seemed to be to expand the church and convent simultaneously in every direction.²⁹ These changes were begun in 1444 by the architect Michelozzo.

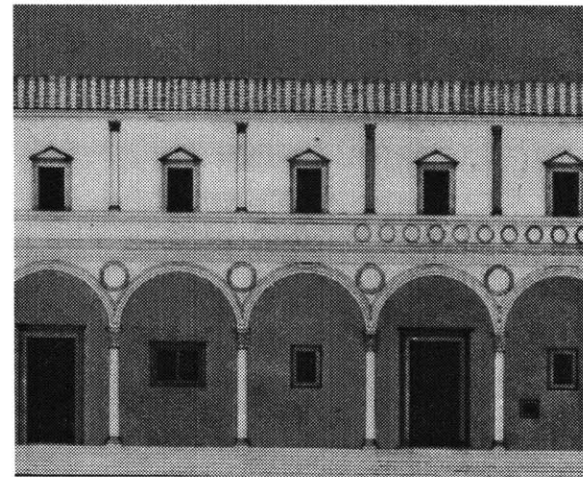
The scheme for the rebuilding of the Servite monastery included the construction of the new tribuna³⁰ in the east part of church. At the front of the church an atrium and central bay over the entrance were added. A marble tabernacle was built before the miraculous image of the *Annunciation*. Also a new library and sacristy as well as modifications in the dormitories and cloisters were undertaken.

Meantime in the first part of the *Quattrocento* important changes occurred in the surrounding church area. In 1419,

²⁹ibidem p.21

³⁰domed presbitery

Brunelleschi started construction of the Ospedale degli Innocenti by erecting the one storey loggia. The loggia was finished in 1427 and occupied an entire south side of a rectangular piazza (originally merely an unorganized open space in front of the church Santissima Annunziata). Three years later the facade of the Ospedale was extended to the south (right) side giving place for annex and future cortile delle Donne in 1438. The facade above the loggia, comprising the upper storey with its windows had been built in 1439. In the same year the coat of arms of the Arte della Seta over the main door had been installed. The main courtyard (cortile degli Uomini), although started early in 1426, was not finished until 1445.



Reconstruction of Brunelleschi's original design for the Ospedale degli Innocenti

By erecting the loggia, Brunelleschi started a two-century long process of creation of what was to be called the Piazza SS. Annunziata. The next major change to the square, following the competition of the loggia in 1427, was the construction of an atrium and a central bay of the SS. Annunziata church by Michelozzo in 1454 in harmonious with Brunelleschi's work.

With two sides determined and a straight street, the Via de' Servi, running from the Cathedral and offering itself as axis for the piazza, a regular open space was bound to be laid out. However, the form of the space remained undetermined until 1516, when architects Antonio de Sangallo the Elder and Baccio d'Agnolo were commissioned to design the building opposite to Brunelleschi's loggia. It was Sangallo's decision to follow the Brunelleschi's prototype and to set the form of Piazza della Santissima Annunziata. Edmund Bacon credits Sangallo for establishing the character of the Piazza formulating the "principle of the second man" which says "it is the second man who determines whether the creation of the first man will be carried over or destroyed."³¹ The direct continuation of Sangallo's decision was Caccini's extensions of Michelozzo's central bay, forming the portico of Santissima Annunziata, completed about 1600. At this point, the Renaissance concept of a space created by several buildings designed in relation to one another was executed.

³¹E. Bacon p.109

The final addition to the square was done by placing in its center the equestrian statue of Grand Duke Ferdinand I and two fountains sculptured by Giambologna³². The statue, although done in April of 1607, was not unveiled to the public until October 1608, which was displayed as a part of the city's decoration in celebration of the wedding of Prince Cosimo to Maria Maddalena of Austria.³³ The Piazza Santissima Annunziata was established as a complete and unified composition. The very broad stairs on both sides of the square implicitly lent a theatrical character to everything in the vicinity. The term is intentional, the loggia steps are like seats in a Roman amphitheater doubtless occupied then as now by loungers. The image of Antiquity is further reinforced by the presence of arcades with Classical pilasters.

In this context, it is interesting that Alberti, in Book VII of his treatise on architecture, speaks of the necessity of employing uniform structures and porticos, preferably symmetrical, to ornament specially crossroads, forums and theaters, places he in fact equates: "In reality the forum is nothing other than a more spacious crossroads, and the place for spectacles is a simply a forum surrounded by tiers and benches." That equivalence of functions holds perfectly for the Piazza della SS. Annunziata: a place to pass through or linger in

³²(placed there as a directional accent in imitation of Michelangelo's siting of Marcus Aurelius in the Campidoglio).

29 ³³Giambologna, p.173

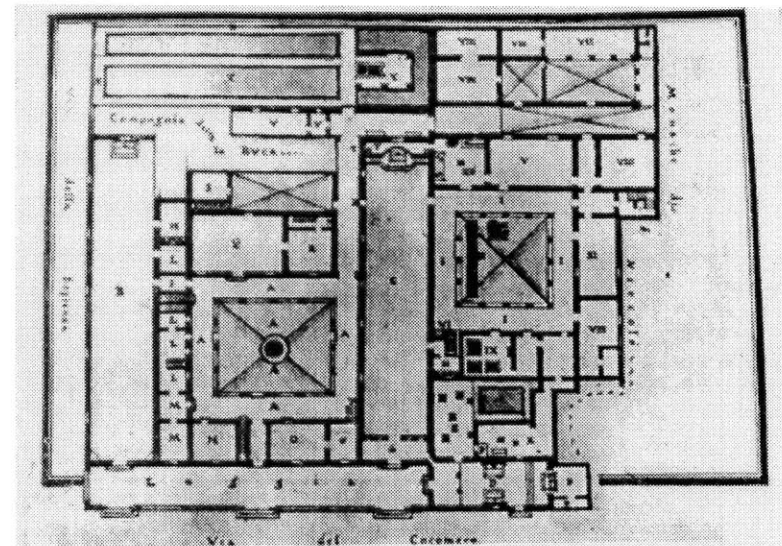
where urban life, though slower here and more peripheral, is nonetheless active and conducive to sociable gathering.

While the form of Santissima Annunziata's church evolved as a direct response to social and political life of the city, the evolution of the Ospedale was inspired by genius of Brunelleschi and the local tradition.

The immediate predecessor of Ospedale degli Innocenti is Ospedale di Mateo located on the Piazza San Marco in Florence and dating from the end of the fourteenth century. The two Ospedales were similar in style: fronted by loggia, the entrance in the center, and the chapel. In either case, the arrangement derived naturally from the need to protect the entrance of the building which combined the convent, chapel and living quarters, set side by side and each with its own door. It resulted in a long portico whose dimensions, obviously, had to depend on those of the interiors behind it as well as to allow for future expansion.



Ospedale di Mateo, view from the Piazza San Marco



Ospedale di Mateo, plan

The type represented by the ospedale should be understood more broadly. It included not only orphanages, but it was more
30 of a hospice: a place for travelers, elderly people, and the sick,

as well as for orphans. Although the ospedale was designed to accommodate people (in case of the Ospedale degli Innocenti-orphans and foundlings), it served as a social institution as well.

Brunelleschi's accomplishment was in modifying the existing local type by giving it a new appearance. Nonetheless the loggia of the Foundling Hospital can only be termed monumental, and its impressive dignity went beyond what was required by its practical functions or even by the desire to confer greater nobility on those functions. It became nothing less than a symbol, one expressing the high social position of those who commissioned and administered the institution. This is true of the inner arrangement as well. The central door leads to the cloister, in its way a second piazza from where visitors can make their way to the various administrative offices. Flanking it are the church and the main ward, equal in size and each with its own large door to the loggia. The ward serving as dormitory for the children was known as the abituro, a word now implying the humblest of dwellings.

The service corridors are around the central courtyard and on the central facade other doors, the sixth and seventh, led to other premises or to stairways to the upper stores. Every part fulfills its function without interfering with the others. There is not even an visual connection: the windows of the church, like those of the ward, are too high to permit a glimpse of the cloister, and from its only blank walls are seen.

For the inhabitants, however, the isolation of the parts is broken by the most ingenious system of passageways at ground and semi-basement levels. All the original portions, except the loggia, are two-storeyed.

The hospital played an important social function as well. It focused communal activities around human and social values. In case of the Ospedale degli Innocenti, it helped to find surrogate families for orphans and also prepared these children for the profession of crafts. The hospital instead of being a place of shame became a lively gathering point, with a portico much larger than was needed merely to lead into the church and cloister and ward-- a loggia ingeniously transformed into setting, stage and stalls for that great theater which is a busy city square.

The plan of the Foundling Hospital has certain features which were applied a few years later to the palaces of Florentine patricians: a large square court treated like cloister, with arcades; a staircase placed no longer in the courtyard but inside the building; a central axis that runs from the middle of the facade to the garden in the rear; two symmetrical rooms for custodians at the start of that passageway to protect it.

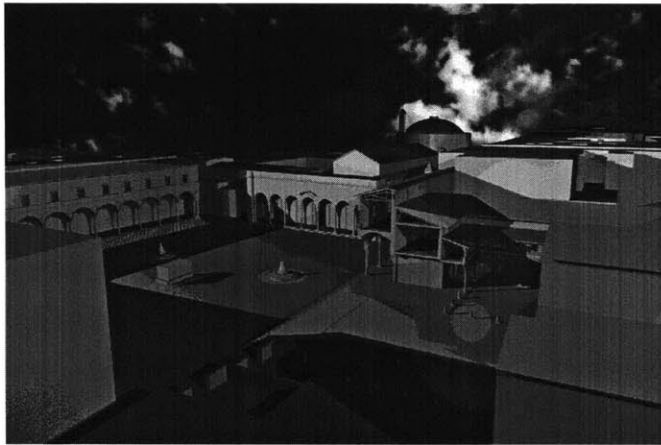
The evolution of the Piazza della Santissima Annunziata is presented in a chronological order in the appendix one at the

There are three important notions in the light of this chronological sequence. The first is the relation of the church to the city. This relation was accomplished by the changes in the church's form as well as in the city fabrics. It was initialized by the uncounted number of pilgrims who followed the procession road from the city to the small peripheral church. Although the city grew laying its structure over the area the primary pattern remained untouched and is still visible today. This pattern of progression road induce the changes to the square and the church.

The second aspect is the relation between the Ospedale degli Innocenti and the Piazza della Santissima Annunziata, between original thought of Brunelleschi and wise decision of Sangallo. The quality resulted from this cooperation cannot be credit to *either* one, but rather to *both* of them.

The third aspect is the interrelation of the individual architectural objects, namely the church of SS. Annunziata and the Ospedale. As a result of their intense dialogue the Piazza was created and later buildings embedded themselves in its structure. At this level of interdependence, [integration] it is difficult to look at them separately but only as a one overall structure which shares the qualities and values. This sharing means that the quality of space sequence that forms the notion of the church (procession road) is dependent on the quality of the square which is formed by the loggias of Ospedale and other buildings.

The general feature of all of these relations is the interdependency of interacting elements. This interdependency, which evolves in time, makes us to look at things globally. As a result the elements become integrated into larger and complex structure.



Piazza SS. Annunziata and Ospedale degli Innocenti

Methodology of the Case Study

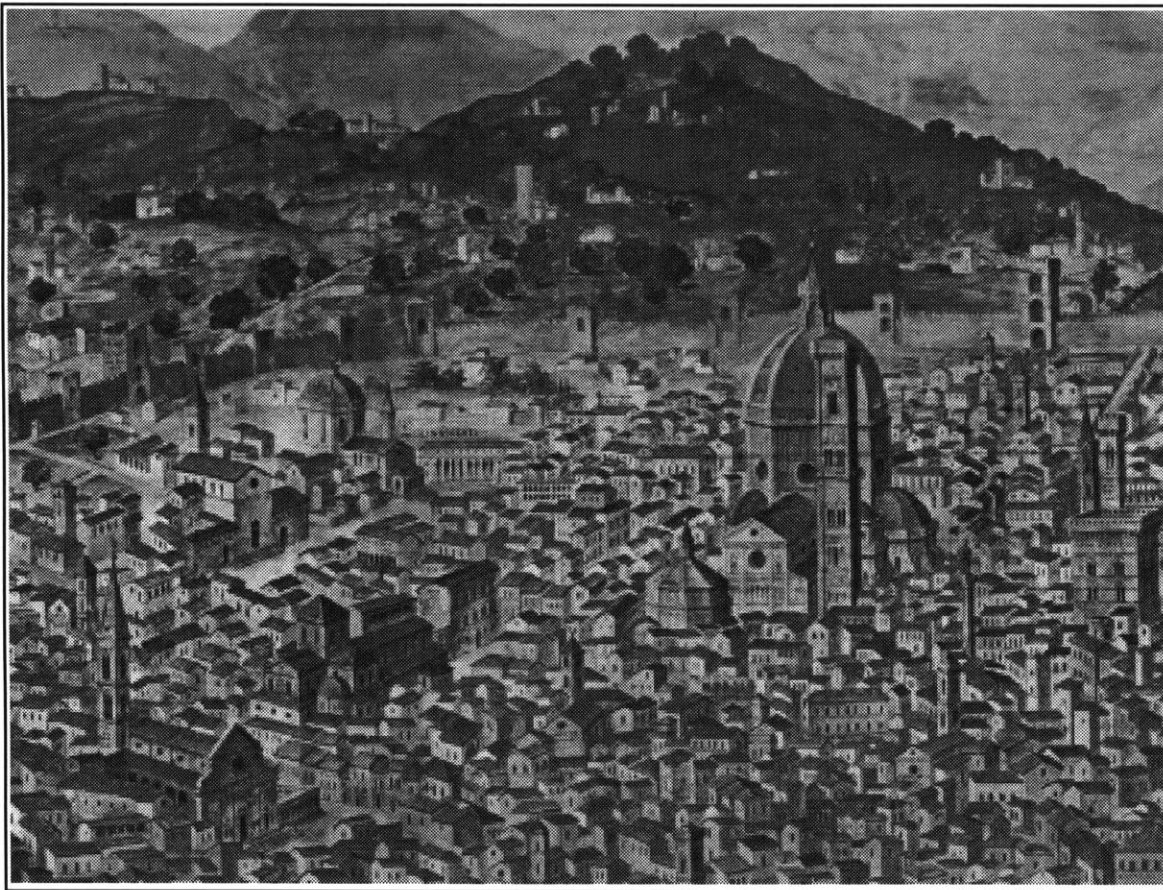
In my analytic studies of the Piazza SS. Annunziata, I use two dimensional plans to illustrate the general forces within the piazza. At this stage, I refer to the nature of the site and its relation to the city.

In addition, I use the computer-generated, three-dimensional model of the immediate surroundings of the square to visualize spatial relationships between the individual architectural objects and the city.

This concentration on a smaller scale helps to demonstrate these relationships with greater emphasis on the edge condition between the building and the city. I explore these relations through the set of views and sectional perspectives. These sectional perspectives, in a similar way as the Nolli plan, give us the unique understanding of the spacial organization, sequences and continuity.

These three themes, spatial organization of forms, visual sequence of spaces, and continuity of experience will serve as the leading categories of my analysis. I will show how each of these aspects influence the dialogue between architecture and urban form.

A distinction between the formal and experiential aspect is an important one. The formal approach relates to geometric composition of objects and discusses the relation between the global and individual. The experiential approach tries to capture the way humans perceive the space using the perspective views, details, and a sequence of activities.



The city as the phenomenon

the general features of the fabric and composition of Florence

Although this analysis of section of the city, it is useful to take a broader look at the overall composition of the fabric. These qualities of the piazza are not particular to the square but are present in the scale of the whole city.

The view of Florence from 1480, after the wood cut print.



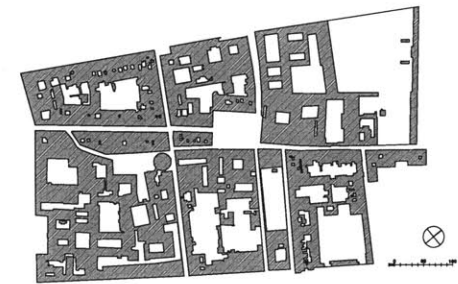
The reversed plan



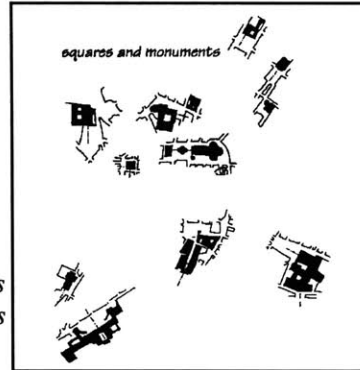
Plan of Florence. The dense fabric is characteristic for the whole city.

The organization and hierarchy of urban forms

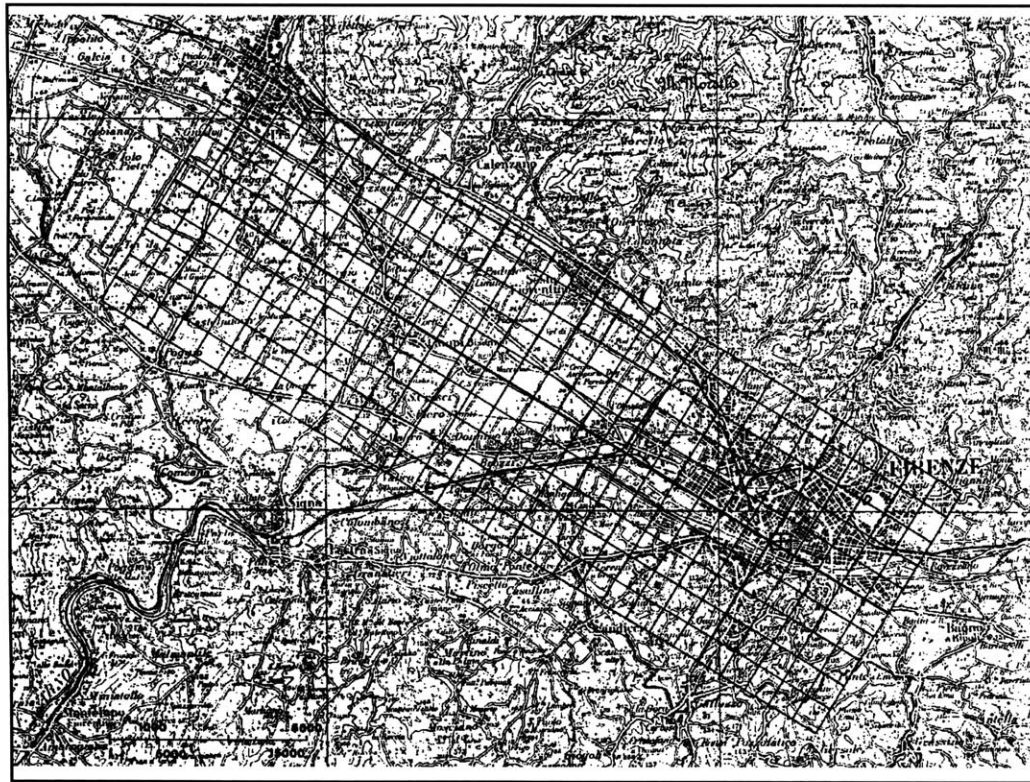
The figure ground plan shows the similarity of textures between the city and the piazzas. The density is spread evenly with greater concentration in the old Roman core. The more recent development, including the area of the piazza, has a greater amount of open spaces in the form of larger squares and inner-block gardens. The figure ground plan also reveals the hierarchy of space and the structure of the city.



The Piazza della SS. Annunziata, plan



The squares and principal public buildings create the network of interconnected spaces and places



The Roman division of the land based on a ca. 700 m square grid--Centuriato. The pattern of the agrarian land was adopted to the fabric of Florence.

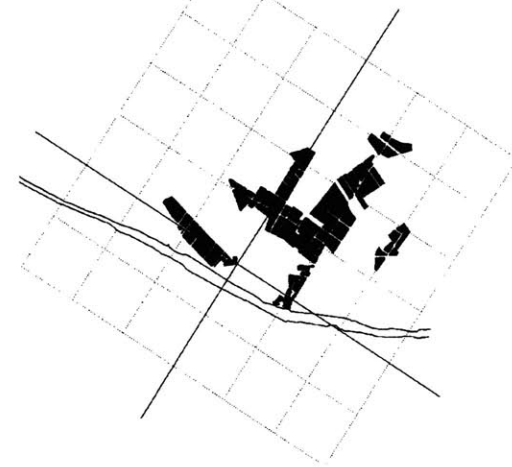
Sequences of spaces within the city

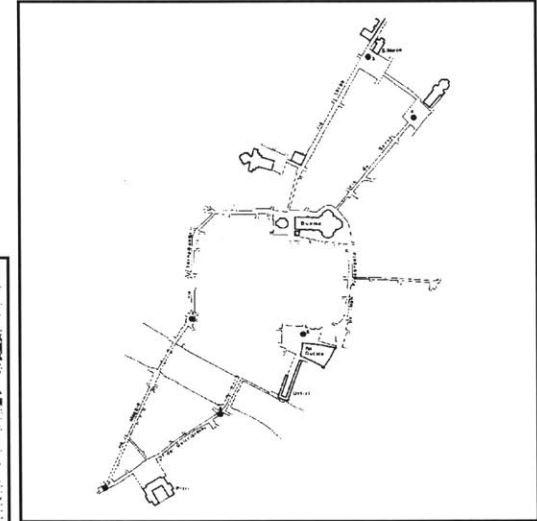
"There a certain roads, such as those leading to temples, basilicas, and show buildings that have greater importance then they would naturally warrant."

Alberti (p.261)

A city fabric is made of various patterns, directions, and axes which create a framework of interconnected spaces and places. These sequences provide a continuity of experience throughout the city.

The streets of renaissance Florence that follow Roman Centuriato



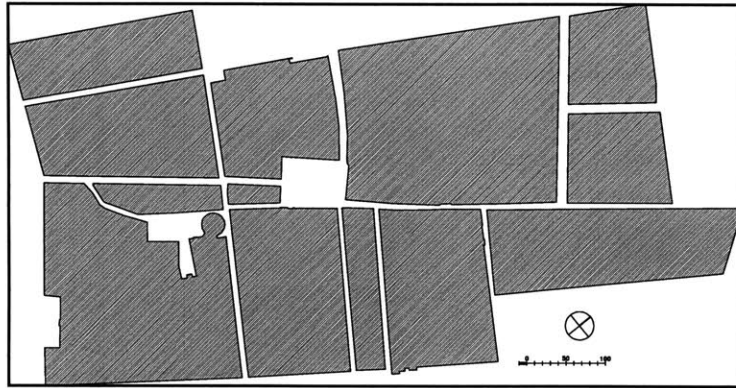


*Relation of the Piazza della
SS. Annunziata to the city*

Area of the Piazza SS. Annunziata as an integral part of the city

The city can be seen as a texture, the combination of open and built-up spaces. It can also be seen as a sequence of streets and squares (public spaces). In the same way, we can interpret graphically the plan of the Piazza della Santissima Annunziata.

*Plan of Florence from 1731
by Ferdinando Ruggieri*



*Piazza SS. Annunziata, Florence.
The city as the network of streets
and squares. Private realm is
defined by the street facades.*



Central spaces that organize the community life within surrounding precinct.

Illustration, to the left, shows a simple division into the city blocks and streets with larger openings in the form of squares. The space of the city is defined by building facades. These facades create the wall between the public and the private realms. The second scenario, left bottom, juxtapose open, outdoor spaces as the centers of social activity to the rest of the city's fabric. In such an understanding, a square, courtyard, or a garden forms a local social nucleus, which organizes the community life within the surrounding precinct.



*The streets are readable through the
arrangement of open spaces*

The streets that were omitted from this plan are visible through the arrangement of large open spaces and small inner courtyards. This can be seen on the illustration above.



Plan of the Piazza SS. Annunziata

Open spaces diversify and obtain individual character. Some of them become gardens, other squares and courtyards (illustration above). Their form reveals a larger concept of organization and hierarchy that enhance the structure of the city.



Changing perception of the square area: different plans different understanding.

The fabric of the city becomes subdivided into individual buildings. The city is no longer seen as the global structure but rather as an assemblage of individual works. Some of these buildings are monuments and others are residential houses. When we move from analyzing the block plan into the figure ground plan, we discover that certain buildings and monuments relate in their plan and typology to the city's fabric.

We realize the existence of an interesting dialogue between an element and the whole, between what precedes and that which follows. However, the relation is not a form of subordination, but rather an active and creative discourse that inevitably leads to interdependency of both forms, architectural and urban. In this state of integration of these two realms, it is impossible, or at least difficult, to delineate the primary subjects from the secondary.

This continuous dialogue between these two realms will be further investigated while studying sequences of spaces.



What is the urban edge?

In this section, I will explore following questions:

What defines the piazza?

Where does architecture start and urban form end?

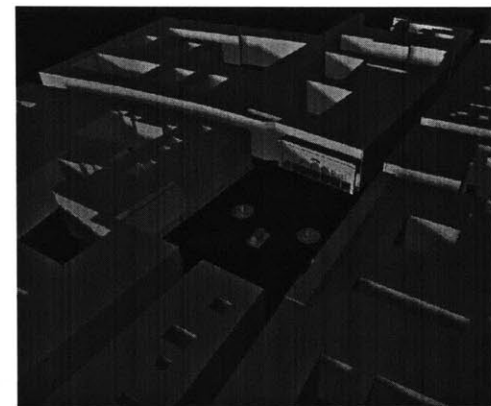
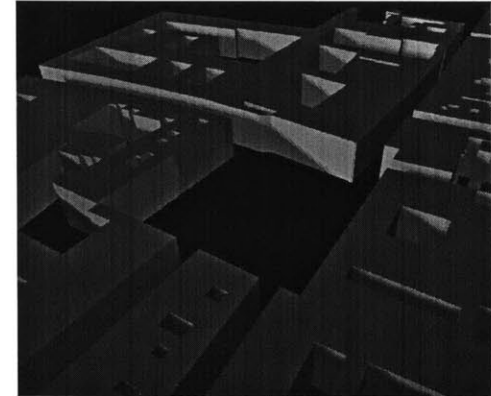
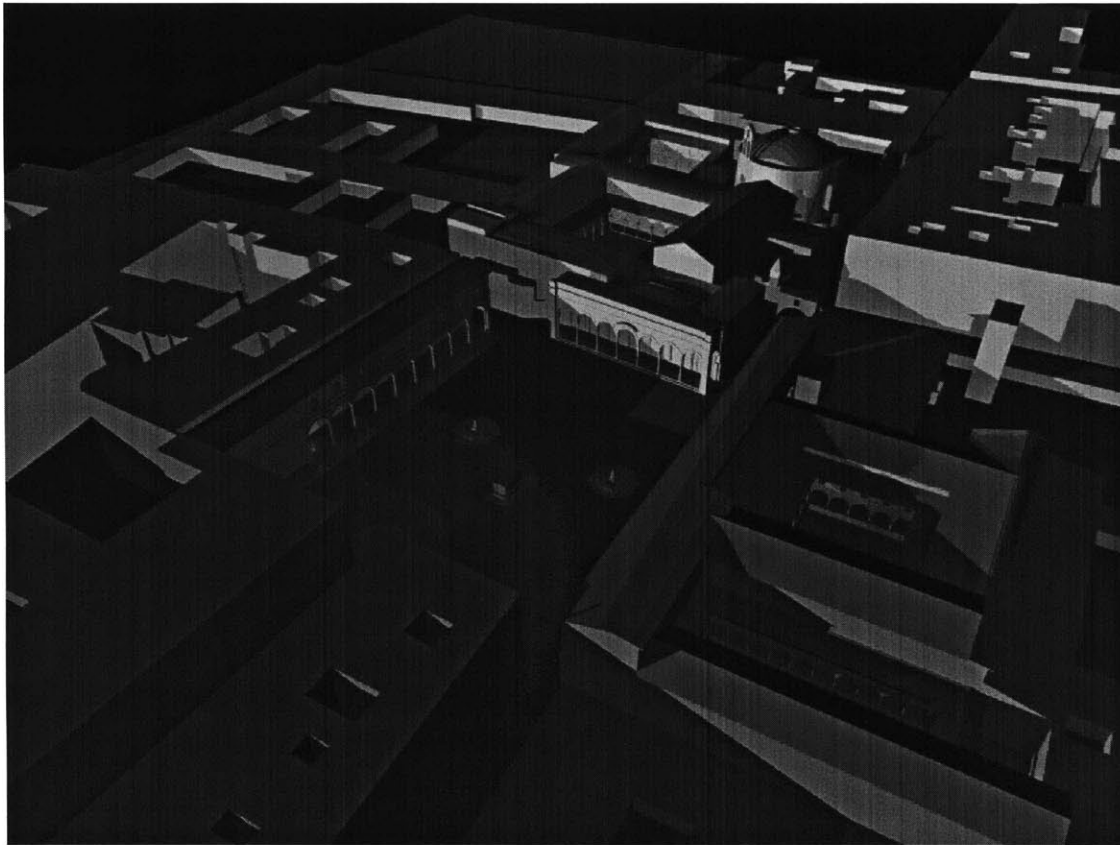
What is the urban edge?

None of these question have a simple answer. What is part of the public domain on a ground level often becomes a private house on upper floors.

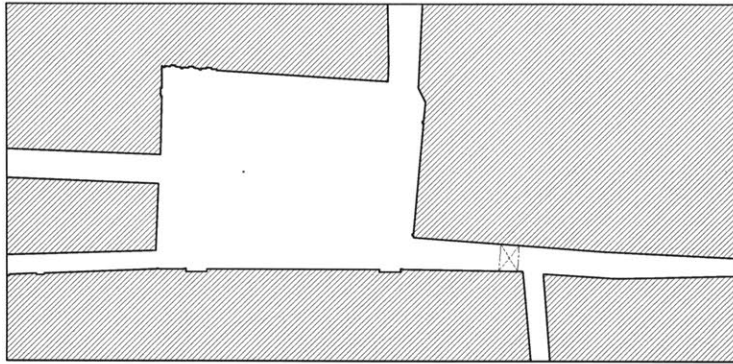
As it is in the Piazza della SS. Annunziata the recesses and protrusions of surrounding it facades make their form more dynamic. At the same time, such an arrangement creates the opportunity of interactions and the dialogue between forms.

The section through the Ospedale degli Innocenti.

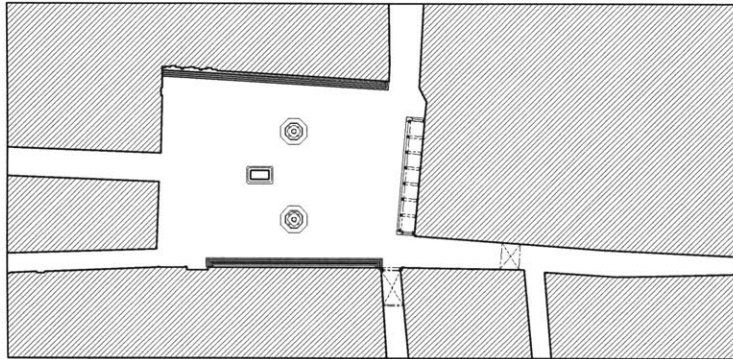
Piazza della SS. Annunziata,
aerial views



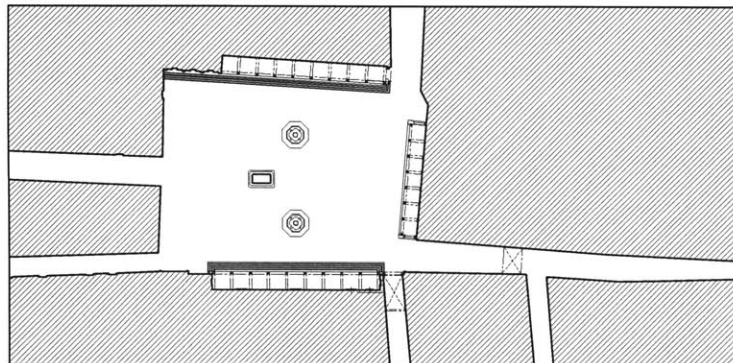
The piazza can be defined by bare walls of facades just as an empty room. However, if we give the depth to these thin, blank boundaries, adding niches and recesses, we discover the defined edge as the space itself with its own character. Certainly, the character of the edge depends on that of the square, but



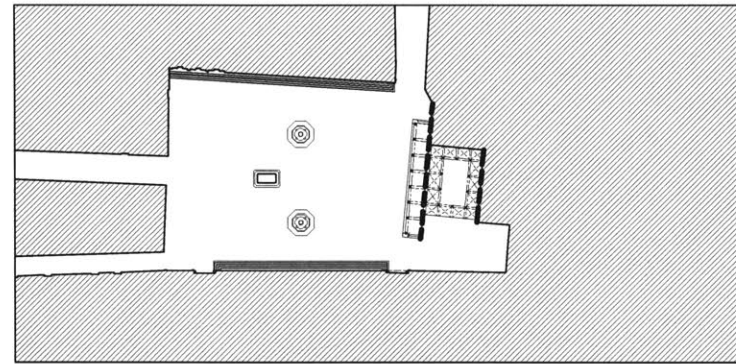
1. The piazza as defined by city blocks



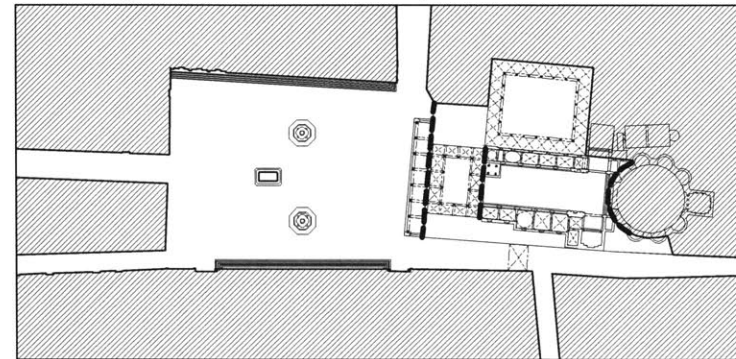
2. City furniture give individual character to the piazza



3. The space of the piazza is enlarged by loggias



4. The front portico and the nave of the church



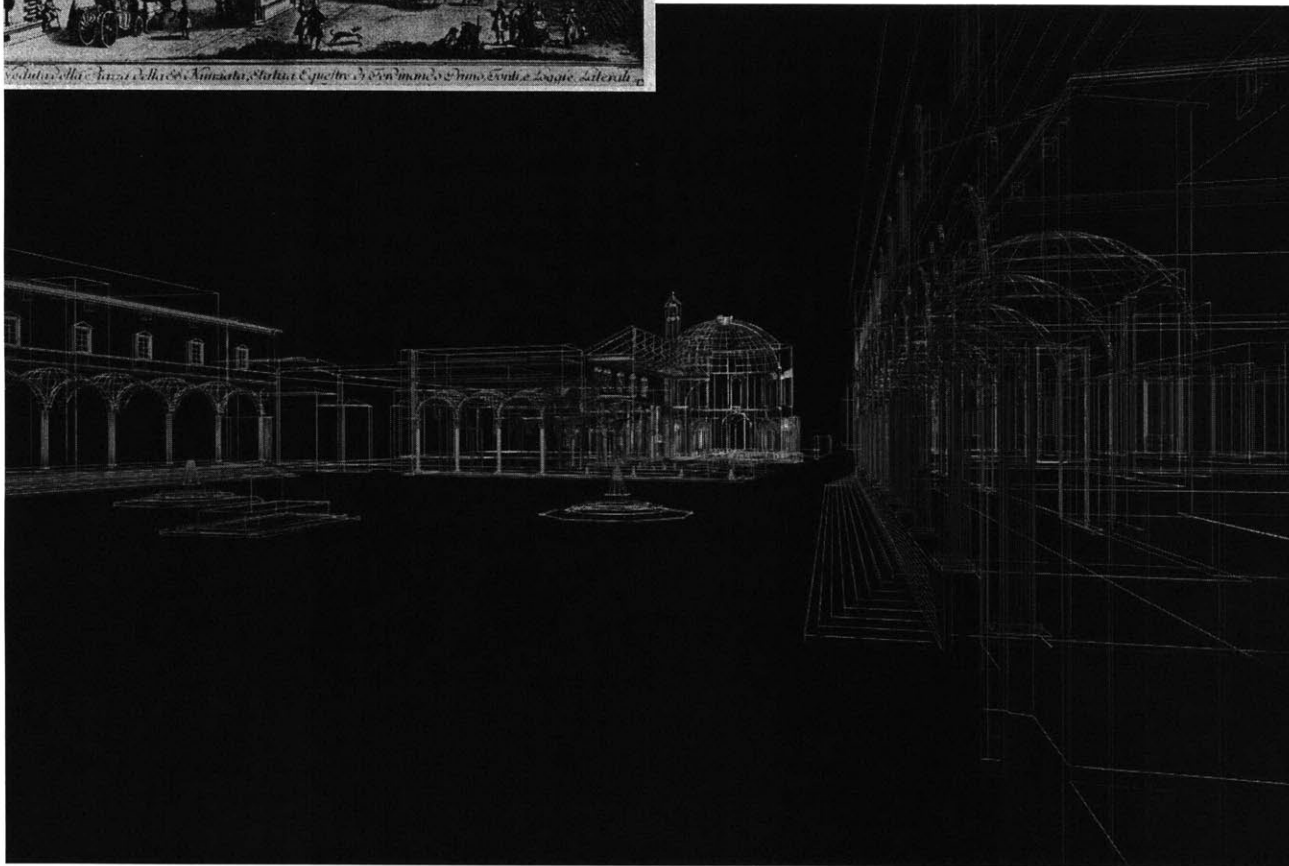
5. The piazza is defined not only by portico but also by the nave and dome.

The sequence of drawings demonstrates increasing involvement of both realms in creating interrelated structures.

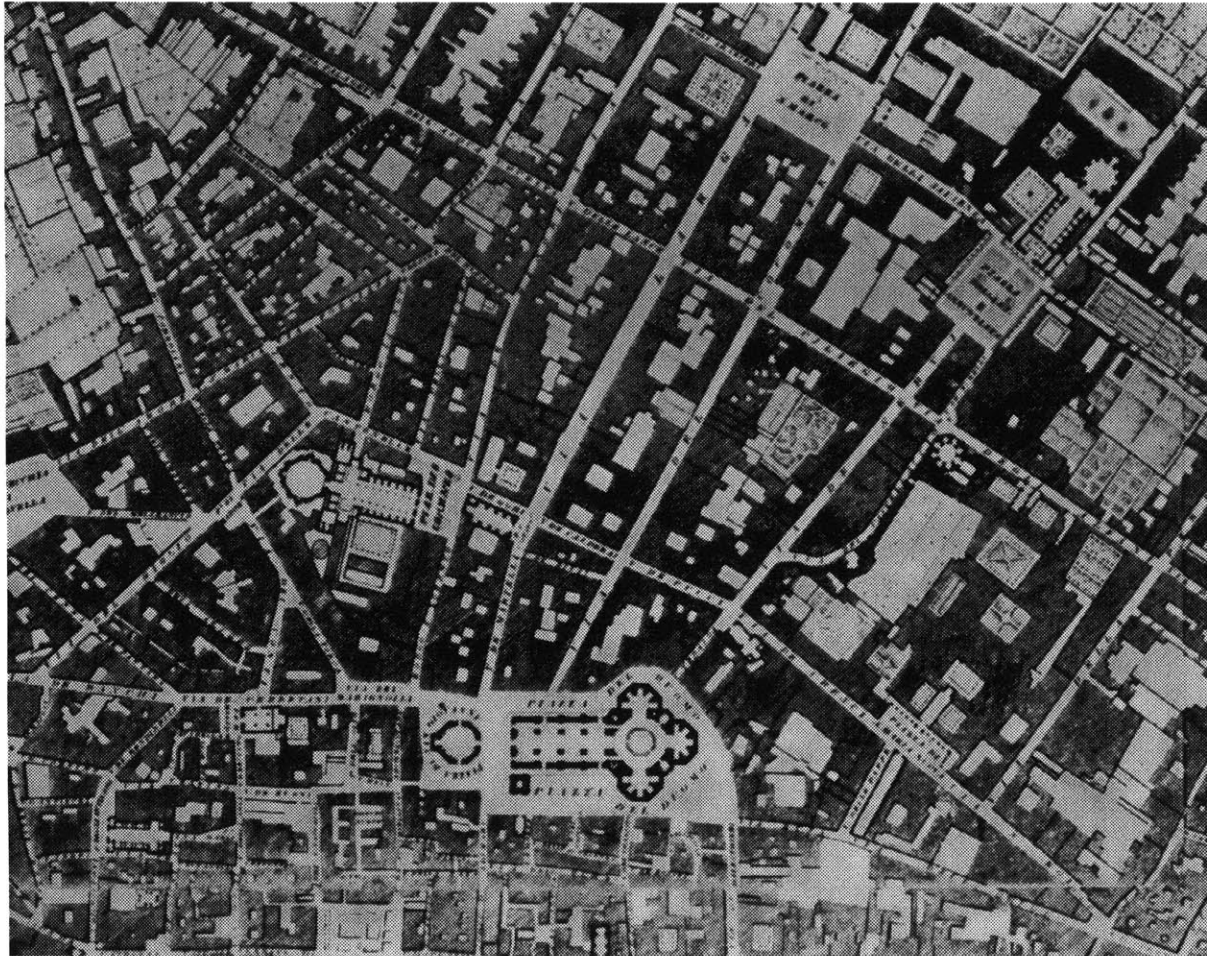
in a great degree it is also shaped by the architectural objects located behind facades. We also discover that the square can be defined by elements not belonging to its edges, but located deep inside the city block.



*View of the piazza from 1744,
engraved by G. Zuccini (left)*



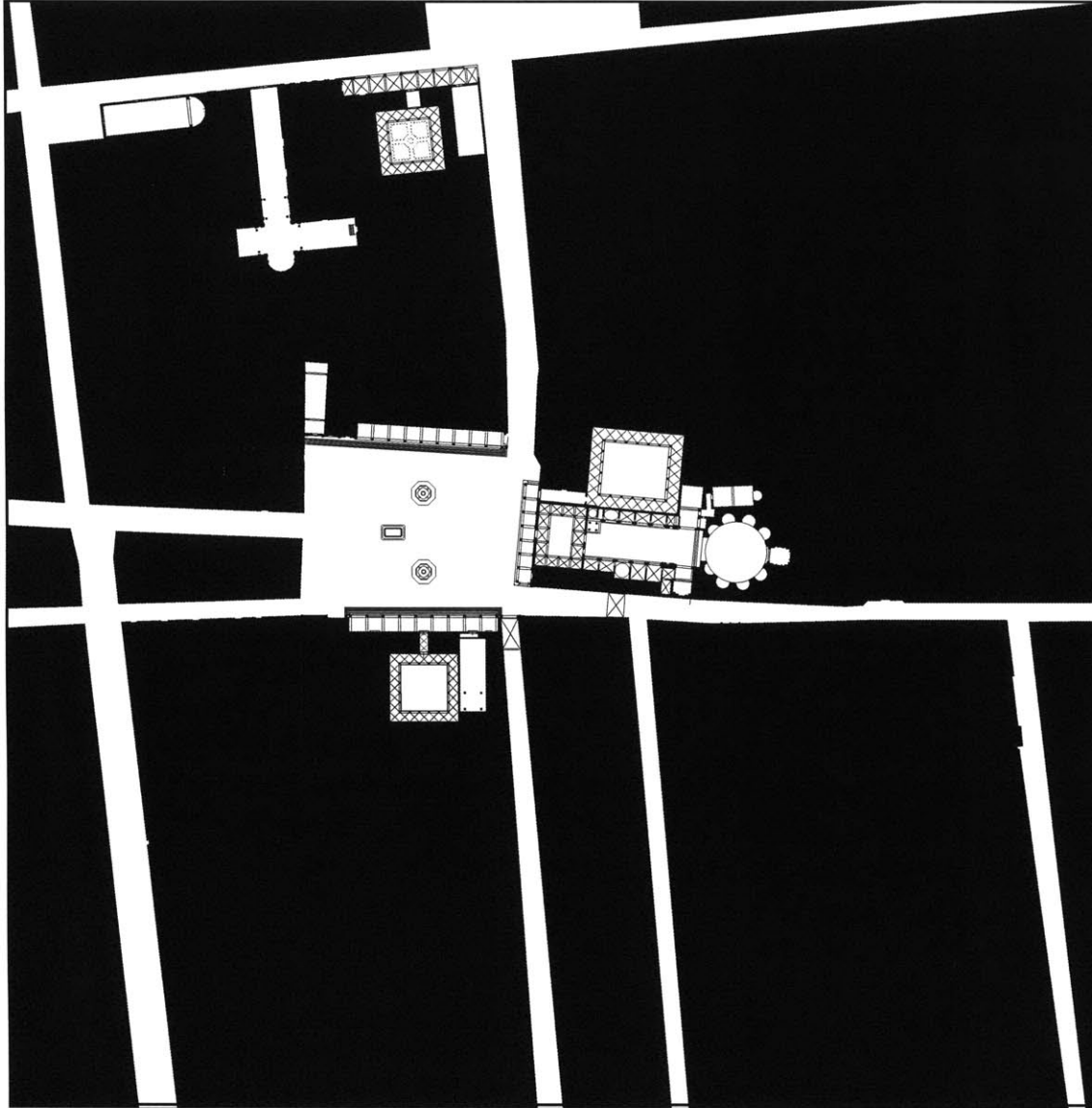
The perception of the square changes with the height. The dome and the body of the nave defines visually the piazza in a similar way as the portico does on a ground level.



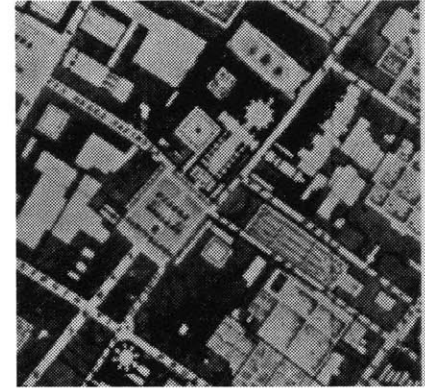
The Plan of the Piazza SS. Annunziata in the Nolli interpretation

The space is no longer divided into architectural or urban form, the concept of public space includes both realms. A regular space of the city consisting of streets and squares is enlarged through accessible indoor public spaces. The notion of public spaces defined in the Nolli Plan goes beyond a simple division between architecture and urban form. The city's squares and streets are defined in the same way as the courtyards and churches. All such understood public spaces are often incorporated in a logical sequence playing important social and compositional role.

The plan of Florence from 1855

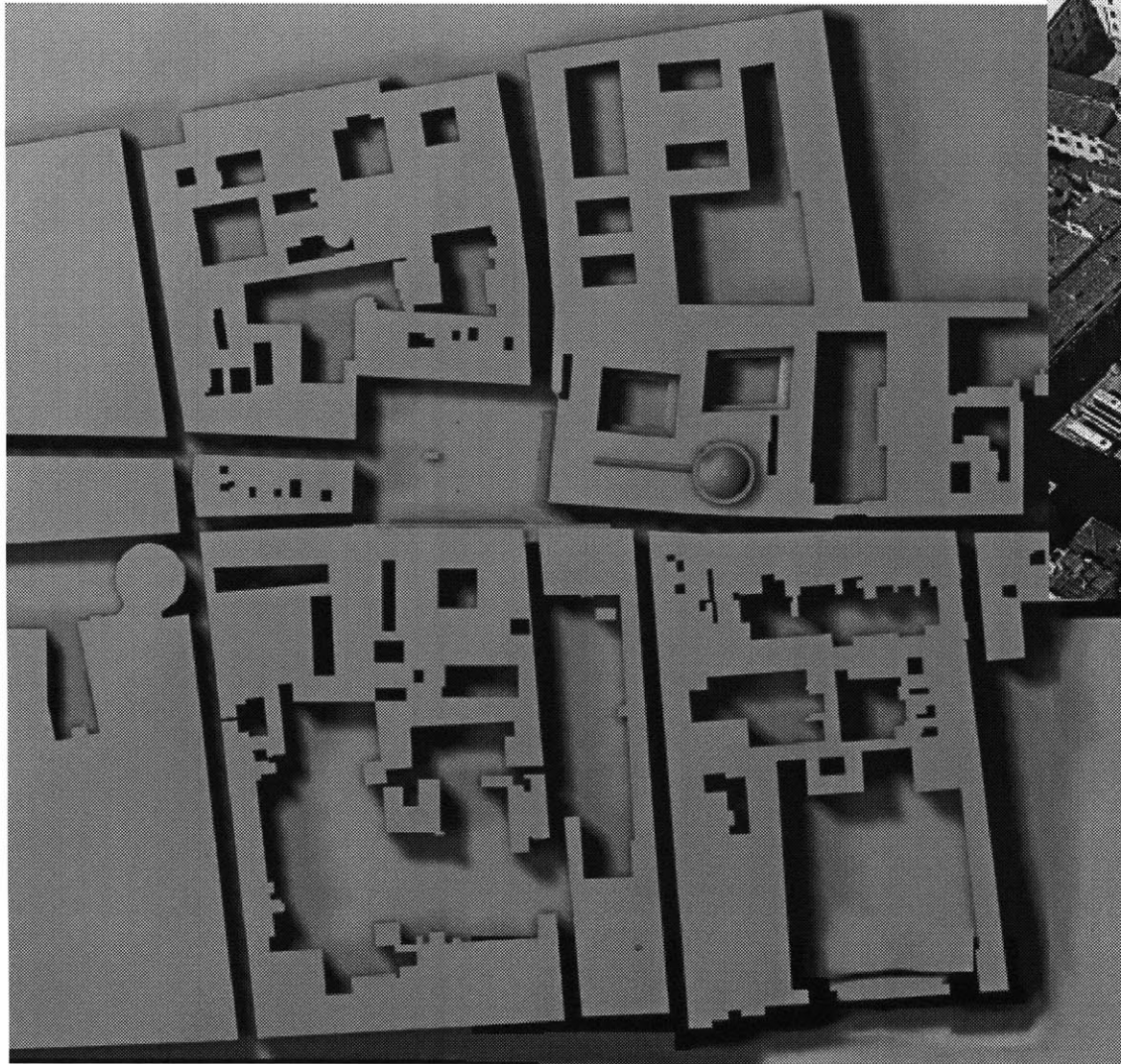


The Nolli Plan of the Piazza SS. Annunziata



The plan of Florence, detail

The Nolli Plan can be deconstructed into the series of bilateral relationships (dialogues) between the city and the architectural object. These relationships can be formal, based on the composition of elements; they can also be seen as a sequence of spaces experienced in a larger functional and behavioral continuum. These sequences often overlap each other and use the same elements such as the piazza. On the one hand, we can discuss the relationship of the courtyard and the chapel of the Ospedale degli Innocenti with the piazza. On the other hand, the piazza with its furniture is a part of a larger composition that involves the street — Via Servi, the atrium of the church, the nave and finally the presbytery.



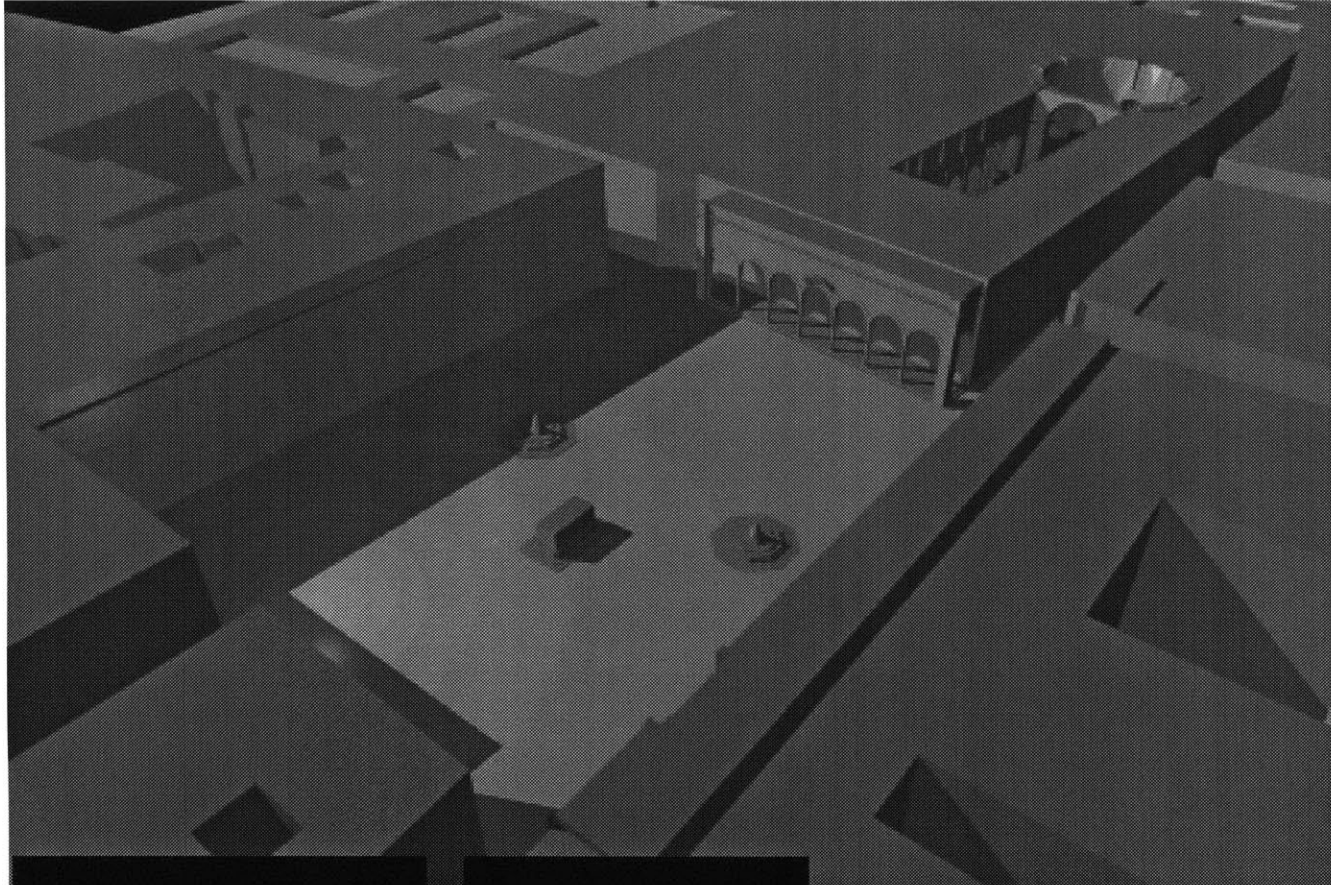
The Procession Road is visible through the arrangement of the street, square, and the dome.



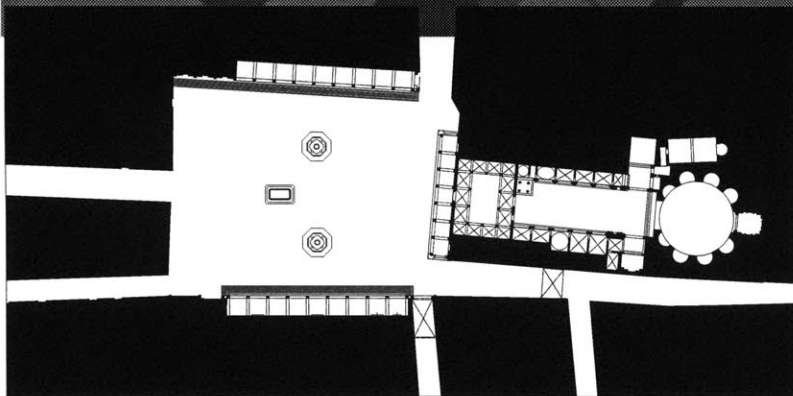
*Piazza SS. Annunziata,
the bird eye view*

The Procession Path — the dialogue between the church, the square, and the city.

The procession path, by its very nature, subscribes to the human activities and can be described as a pattern of behaviors.

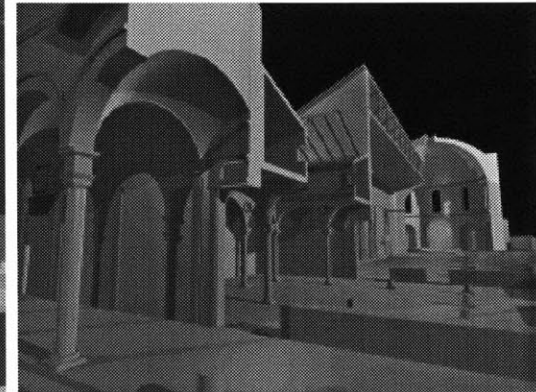


*The nave of the church
extends the space of the
street*

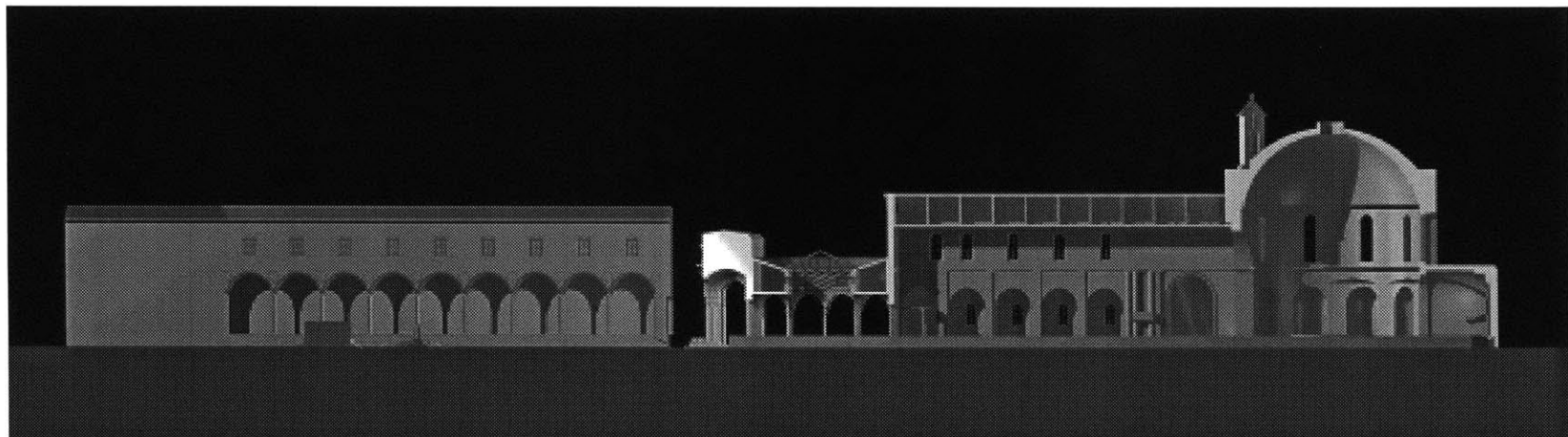


In the church of SS. Annunziata one is confronted with the series of separate spatial units. One passes from the portico to the atrium to the nave and finally enters the tribuna through a narrow neck. Despite what may now appear as a “piecemeal approach” to the church’s overall scheme, it is a carefully organized sequence.

The Procession Road as the Nolli Plan

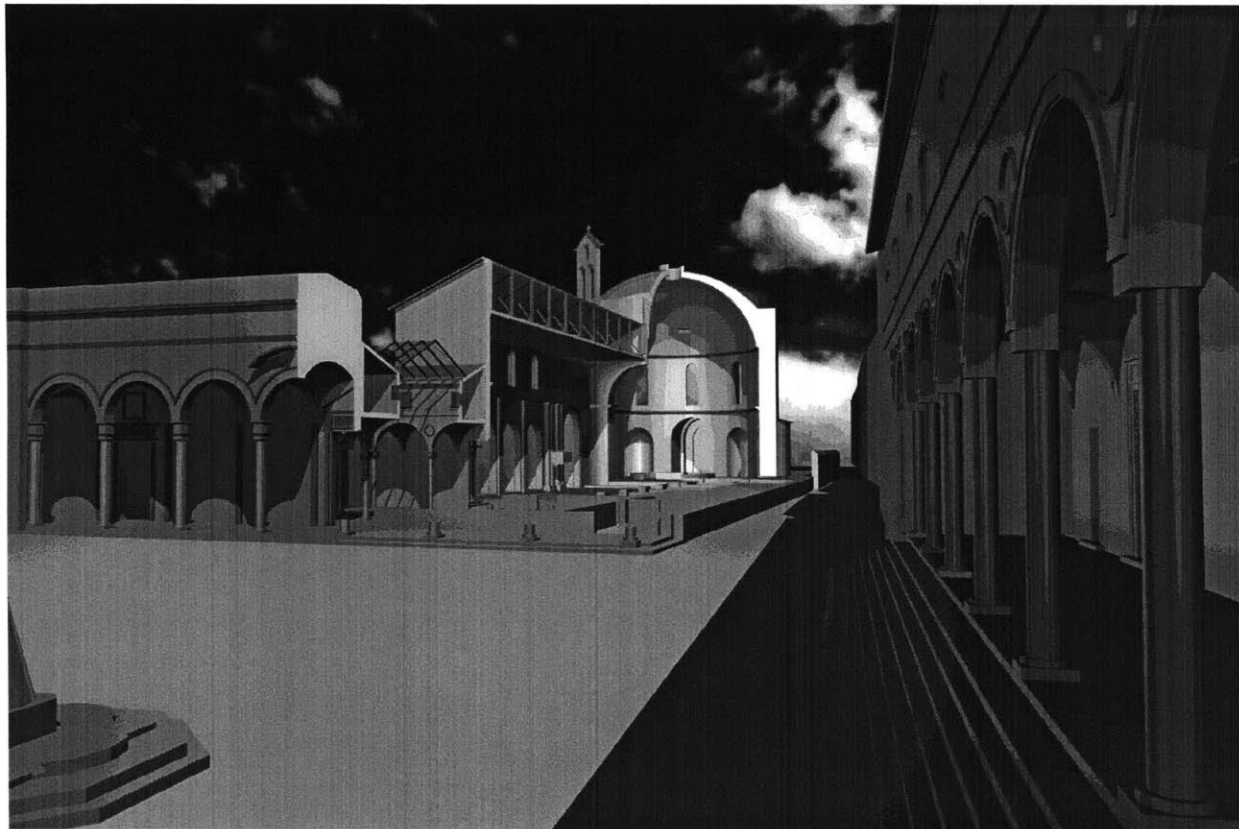
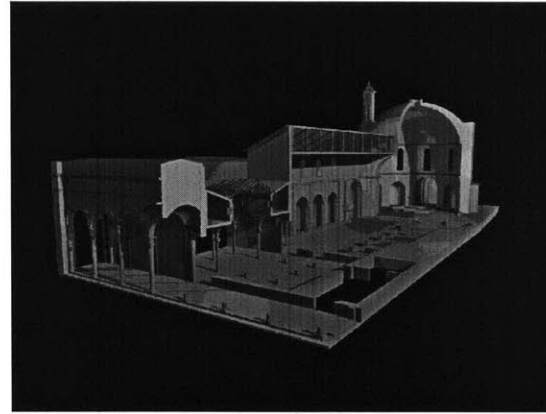


The procession road sequence is articulated by different volumes of inner spaces

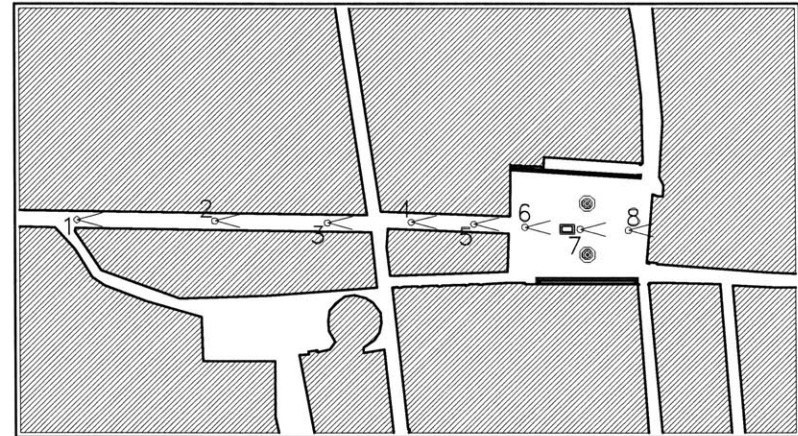
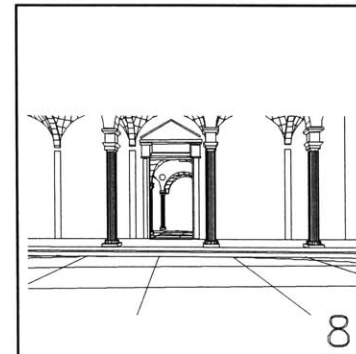
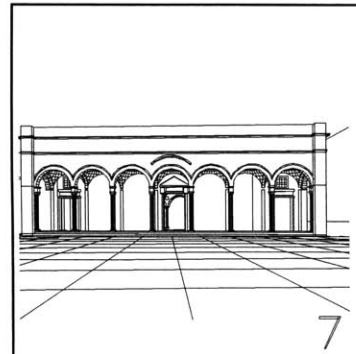
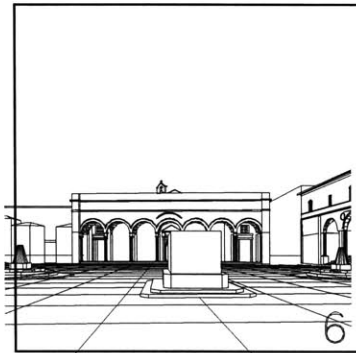
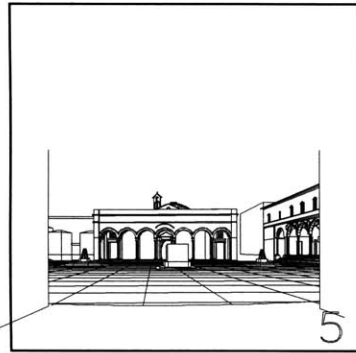
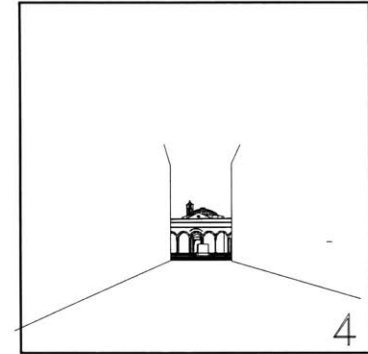
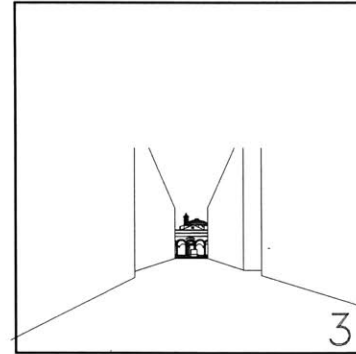
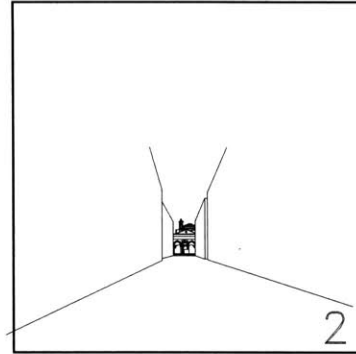
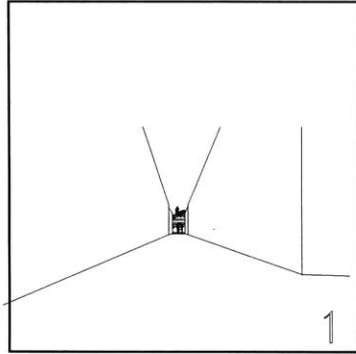


The longitudinal section through the Piazza della SS. Annunziata and the church. There is a similarity of textures between the internal elevation of the church and the facades of the square.

*Sectional view of the
church SS. Annunziata*

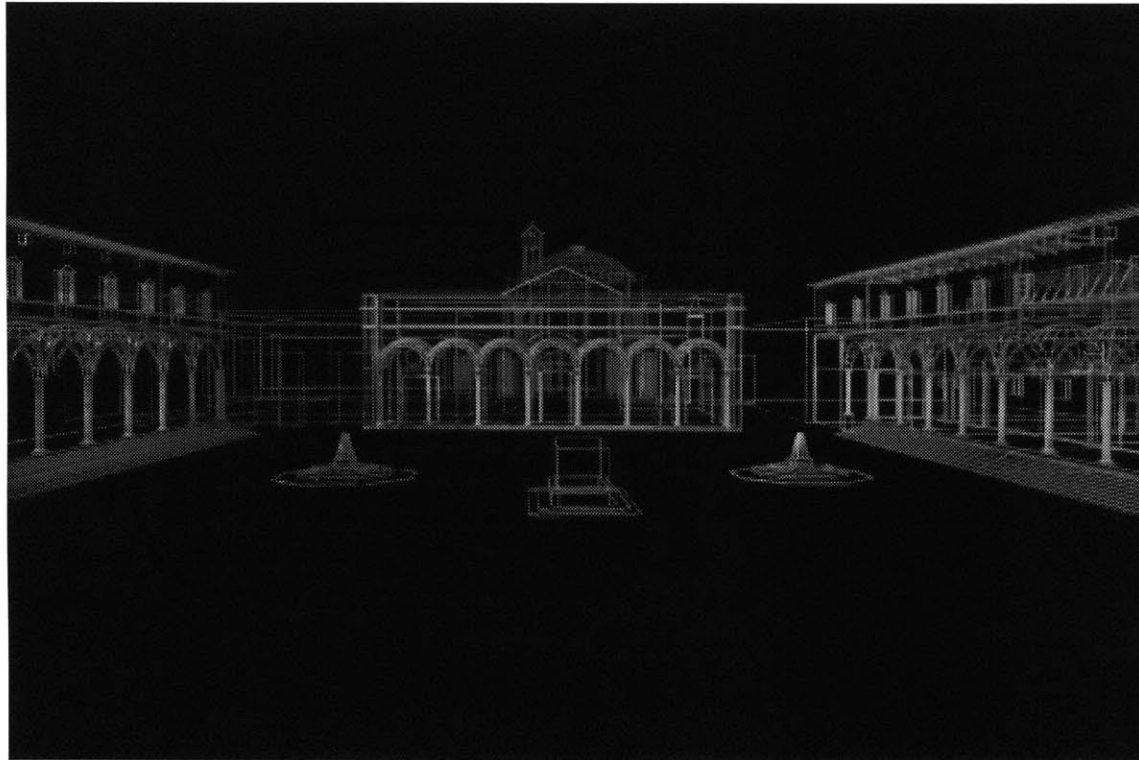


The phenomenon of the procession path sequence is not restricted to the immediate surroundings of the square and the church. On the contrary, it is visible from distant sites due to the spatial configuration of streets and squares. A series of drawings on the next page illustrates this sequence while approaching the Piazza SS. Annunziata. The spatial experience is constructed through the series of immediate goals, changing view points and street terminations.



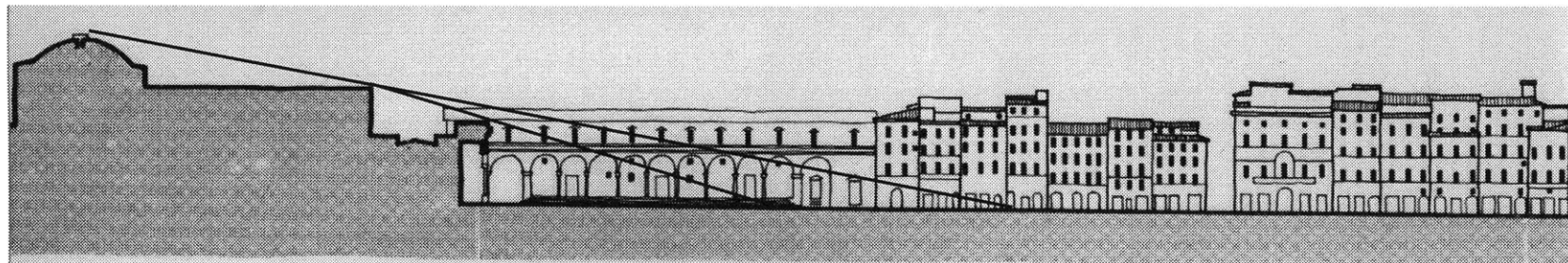
The procession path is the pattern of experience. It is presented in perspectives above. While walking through the sequence of articulated spaces we are led by a series of intermediate goals: *perspectives 1-3*. When the visitor is far away from the square (*ultimate goal*) there is a strong dialogue between the observer and the building. The building is seen as the dome and the bell tower. *perspective.4*. While approaching the square and we start to realize the variety of elements: the church, square, and the equestrian statue. We recognize the statue as an independent

*The view of the square.
The equestrian statue is the
dominant element of the square.*



object, although it is just a part of the city fabric. The statue creates an immediate goal that serves as a link between the observer and the dome of the church. Also the scale of the statue is 'in-between' the monumental and the human.

perspectives 5 and 6 We rediscover the square is the fully urban space with facades, the statue, and the church resembling a large room or a hall. In perspectives 7 and 8 we perceive the church as a singular object (the objects among others) and we are about to enter it.



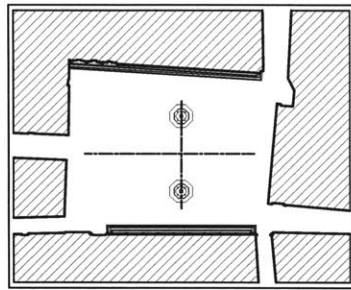
The section through the square and Via Servi. The lines show the visibility of the dome and nave from the street.



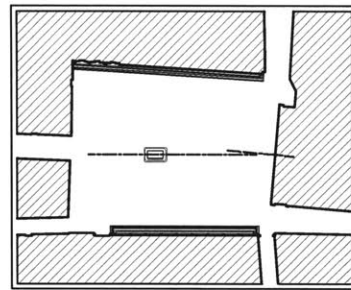
*The terracotta medallion,
Ospedale degli Innocenti*

Street furniture plays an important role as a medium linking the architectural and the urban world. Objects such as fountains and free-standing statue monuments constitute reference points, often serving as a mid-point between the building and the surrounding form of the city. It is a two stage dialogue. The building refers in its perfect geometrical composition to these urban elements. At the same time, these elements (called by me “city furniture”) fit into the fabric of the city.

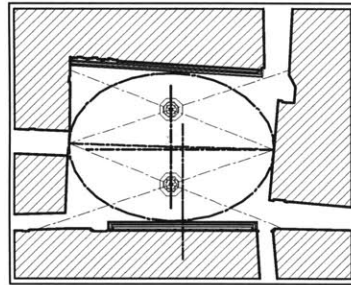
Finally, city furniture is necessary to break down the scale of the city by introducing small and highly detailed objects. These objects give the space a ‘personal touch’ of its inhabitants and represent their cultural and human values. The fact that I use the term ‘furniture’ is not accidental. These elements are not particular to public spaces, they exist wherever we are, helping us to inhabit the space.



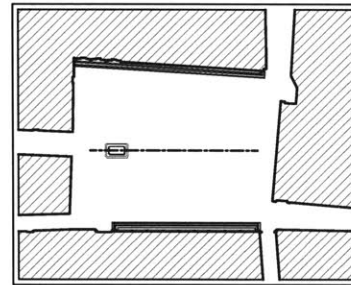
*the actual location of
fountains* 1



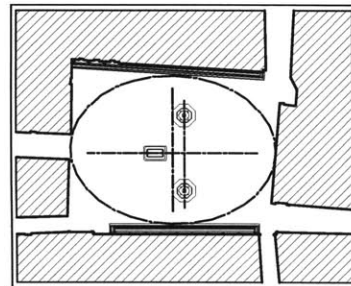
*the actual location of the
statue in the square* 4



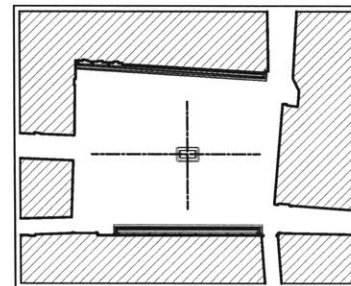
*fountains if they were
located in the center of the
square* 2



*the statue can be placed
anywhere along the axis* 5



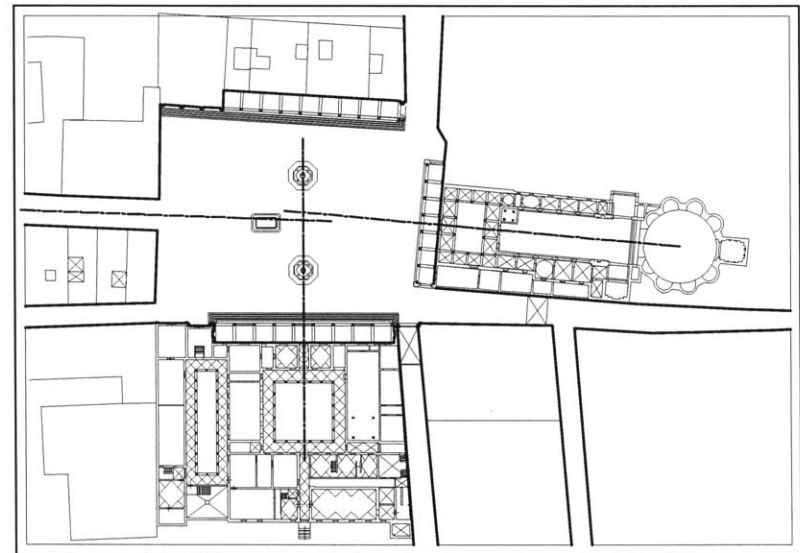
*the statue and fountains in
relation to the geometry of the
square* 3



*the statue if placed on the
axis of the Ospedale degli
Innocenti* 6

Although the statue and fountains create an interesting and unified arrangement, each of them play a different compositional function. Fountains extend the axis of the Ospedale degli Innocenti. Their arrangement within the square results from the building's inner composition. They are not termination points of this composition, but rather they are incorporated into the pattern by being captured between the portico of the Ospedale and the loggia standing across the piazza.

The equestrian statue, located along the axis of the square, plays a different function. Although it serves as the connector of these two realms (architectural and urban), its primary function is to align the axis of the Via Servi leading from the Duomo with the internal axis of the church.



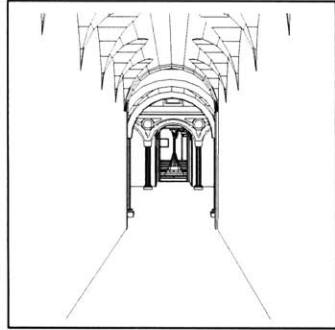
*The equestrian statue and fountains in the relation to the church
and Ospedale degli Innocenti.*



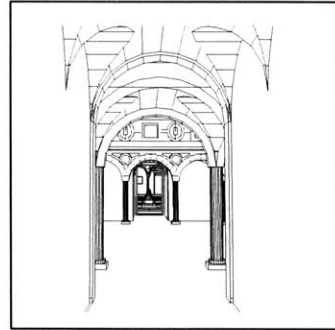
The most significant difference between the fountains and the equestrian statue is that the statue results from the arrangement of the urban elements while the fountains exist in relation to the building.

The need for the statue is produced by the form of the city. It serves as an immediate goal where the facade and the church is the ultimate. There is no need from urban point of view for the fountains. Although they certainly enhance the compositional arrangement of the square, their placement responds to the geometry of the individual building. This relation of fountains to the spatial organization of the Ospedale degli Innocenti is further demonstrated in the following series of perspectives.

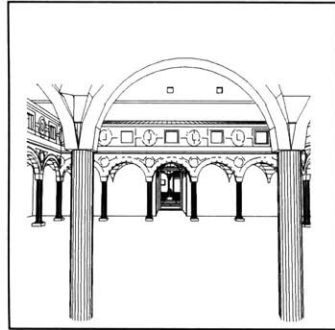
*Ospedale degli Innocenti,
sectional perspective*



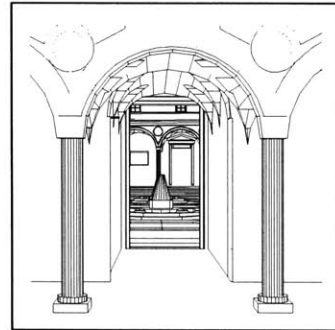
1



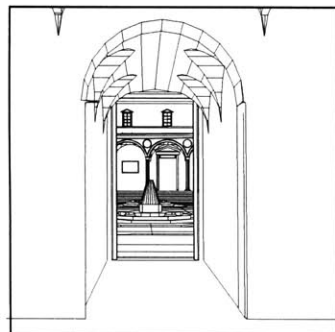
2



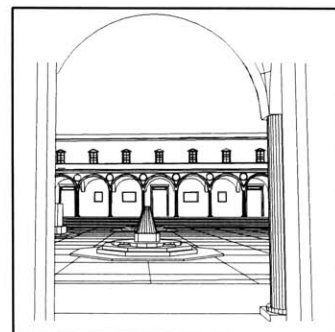
3



4



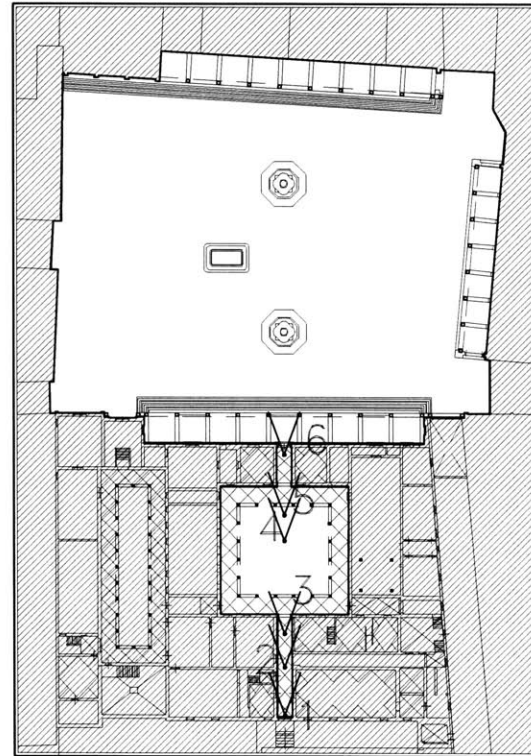
5



6

The courtyard and the square: visual sequence and spatial experience

The formal arrangement of the square is enhanced by the visual sequence of moving through the building. This sequence demonstrates another important relationship between the public square and the inner court of the Ospedale. These two spaces, although different in their function and use, seem create one, *logical perceptual sequence*. The similarity of the architectural style as well as proportions of arches and columns create an impression of continuity and unity of spaces.



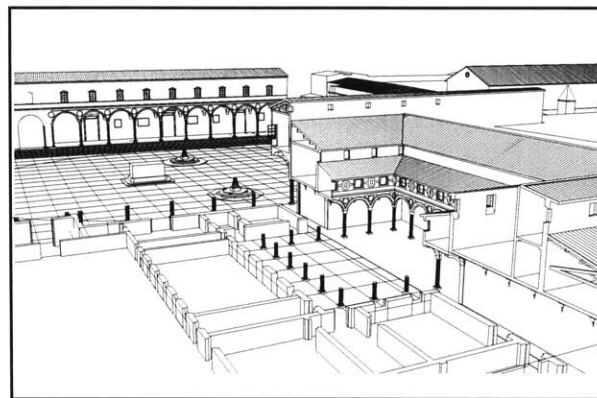
plan

*Ospedale degli
Innocenti,
sequence of spaces*

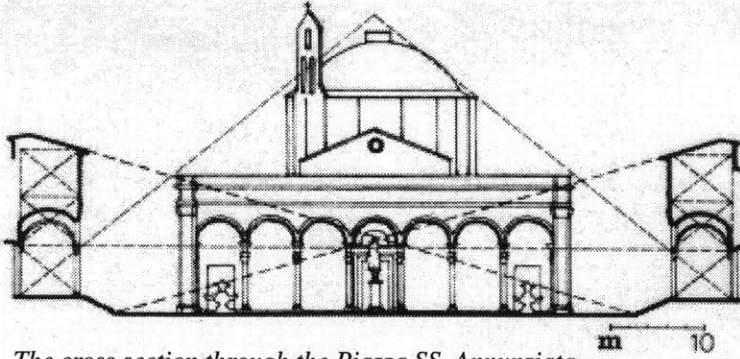
From within the passageway (perspective1), one sees the inner courtyard in the same way as the outer piazza. This difference becomes more visible when one passes the courtyard.

The sequence of visual goals establishes our experience of the space. Continuity of this sequence, and at the same time a clear articulation of spaces creates the positive experience for the observer.

The Piazza della SS. Annunziata, seen from the inner court of the Ospedale degli Innocenti, forms a perception of being a natural extension of the inner space of the building. This impression is supported by the analogy of architectural proportions and style between the inner court and the opposite elevation of the square. The placement of fountains on the axis of the main passageway as well as the same height of arches, further unites these two spaces.



*Ospedale degli Innocenti,
sectional perspectives*

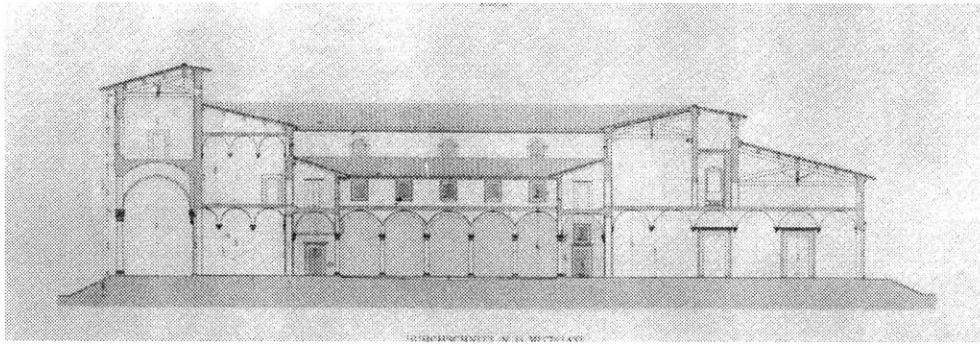


*The cross section through the Piazza SS. Annunziata.
All the capitals of the loggias that surround the square are located
at the same height above the pavement.*

"Nowdays" says Alberti, "we prefer to make the area of the forum a double square; the portico and the surrounding buildings must have dimensions that relate strictly to those of the open spaces." This philosophy found its reflection in the design for the Piazza della SS, Annunziata. All the capitals of the loggias that surround the square are located at the same height above the pavement. This consistency unifies the facades of the square and gives the impression that the compositional base for the piazza is not its floor but the level of placement of the arches.



*The unity of porticoes
around the square creates
impression of the
courtyard.*



Section through the Ospedale degli Innocenti (original design).

The unity of porticoes around the square is carried into the inner courtyard of the Ospedale degli Innocenti.



Section through the Ospedale degli Innocenti and the Piazza SS. Annunziata. Similarity of the inner courtyard articulation and the facade of the church.

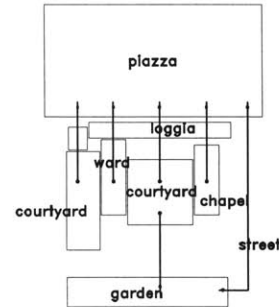
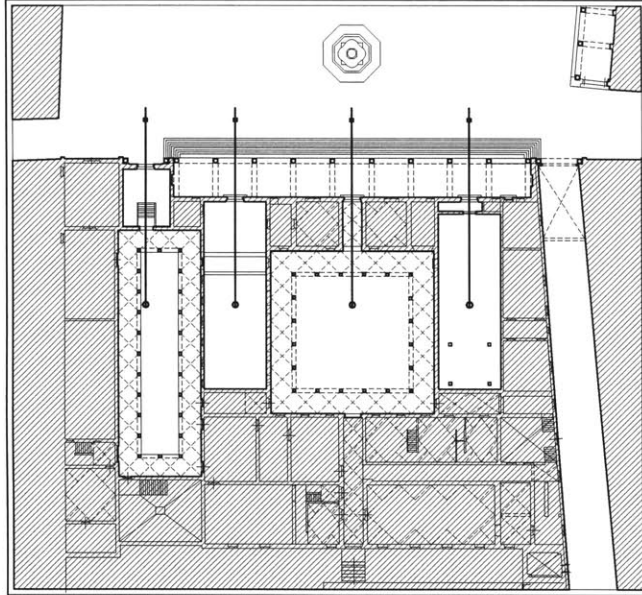


Public life of the inner courtyard

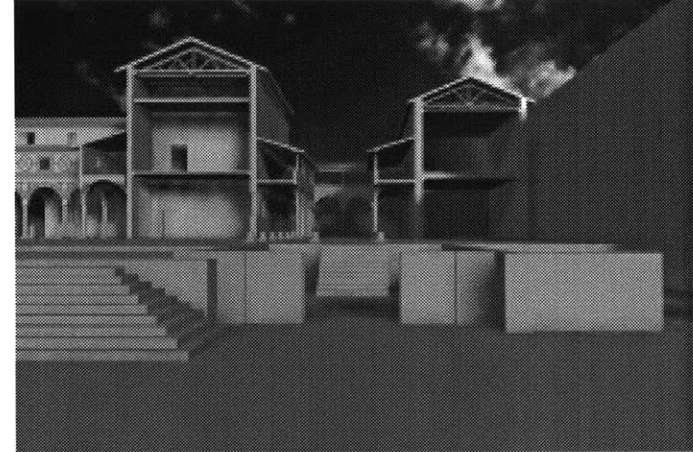


The courtyard as the private space

The same space can house different activities. The character of the space depends on the pattern of events.



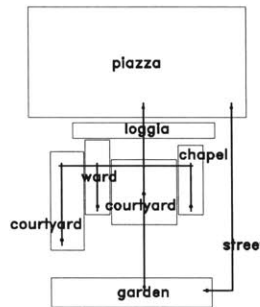
scenario 1



Cortile delli Donne, relation to the square

Scenario 1 and 2 define two different ways of the transitional sequence from public to private.

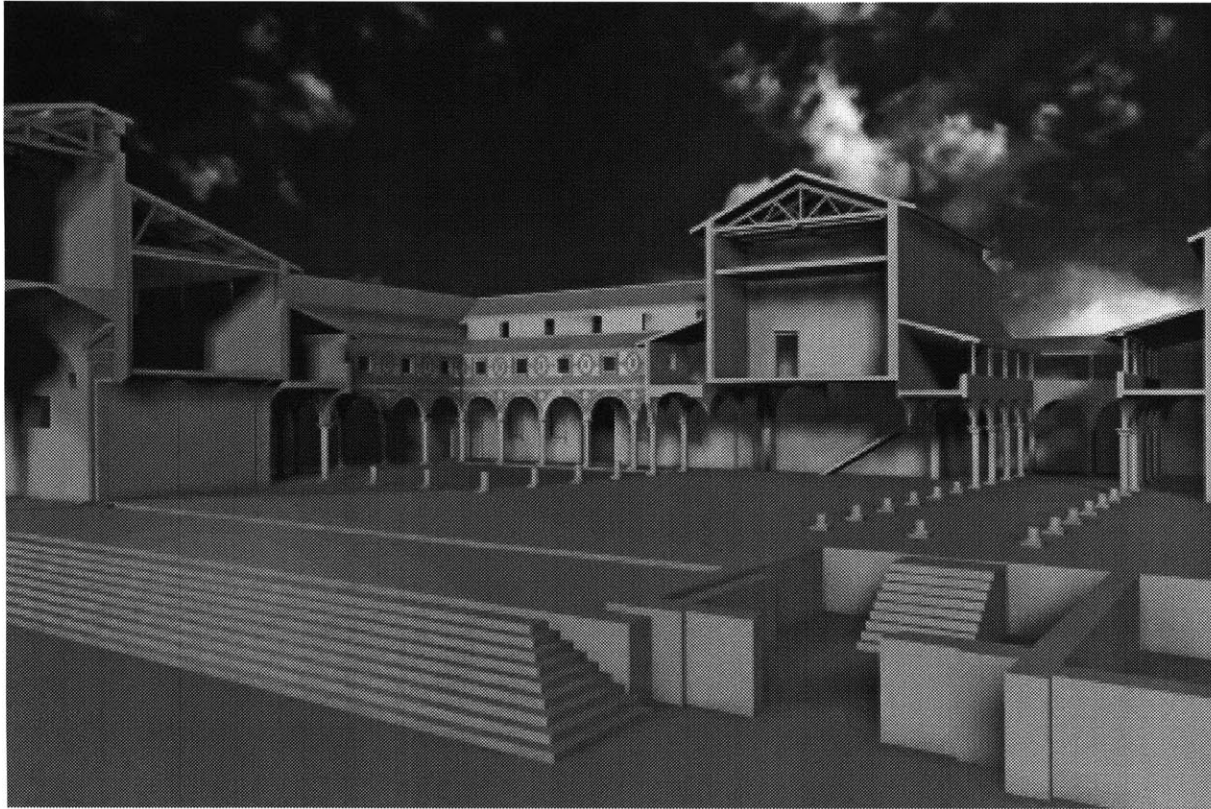
(scenario 1) Architectural spaces such as courtyards, the chapel, or the ward relate directly to the Piazza. The transitional space, being a link between these two realms, is reduced to the loggia of the Ospedale and the edge of the square only. The center of gravity between the urban and architectural form is located on the square since all architectural spaces are individually connected to it. In such a case, the spatial aspect of the city is simplified to the sharp division between urban and architectural realms.



scenario 2

(scenario 2) The transition sequence is more elaborate. The inner court of the Ospedale serves as an architectural space, but at the same time it fulfills an urban function as an element of the transition.

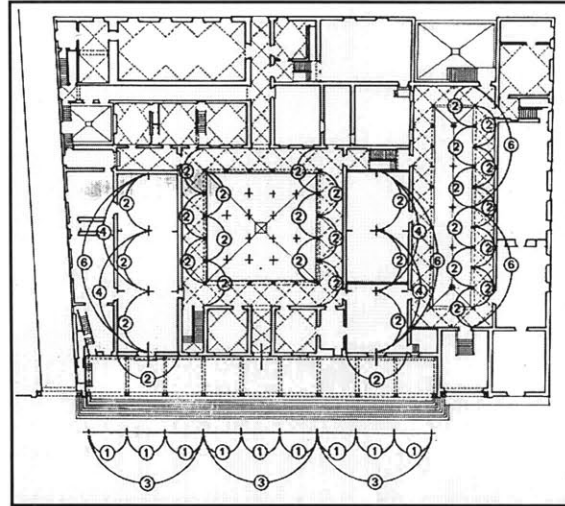
In such a scenario, a building becomes a collage



Relation of courtyards to the square

of spaces that create the “inner city” connected with the outer world by only one entrance. More complex buildings become like a small community with multilevel structure transitioning from public to private. This illustrates how an architectural object can engage the urban function. In such a composition, the center of gravity of urban life moves from the square towards the courtyard of a building. Because of the scale of the city, we come across many similar situations, the urban life becomes decentralized and introduced into the architectural realm.

Ospedale degli Innocenti
The geometric composition of the plan. Important spaces are marked by geometric perfection.

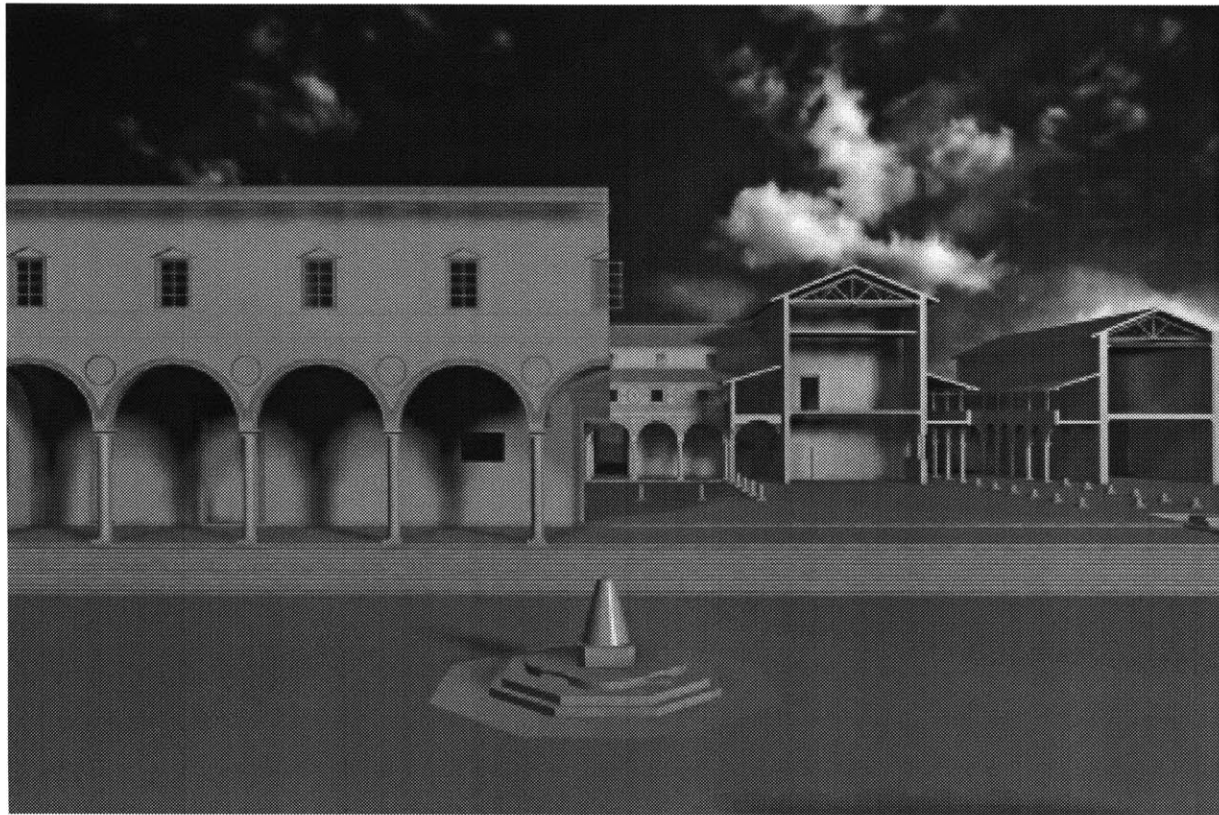


The sequence of spaces is not only controlled by access, but also (or even primarily) by their organization and character.

Formal composition of the plan marks important spaces within a building with geometric perfection. This geometric perfection is not only symbolic but also a practical way to express the importance of the space since regular shapes were rare and difficult to create in old Italian cities. In addition to the composition of the plan, ornament and details further establish the sequence and hierarchy.

The transition from urban to architectural space, from the square to the private room is broken into many "in-between" spaces. The transition is no longer understood as moving from white to black (as it is in the Nolli Plan) but it is enriched by variety of gray tones as "in-between" spaces.

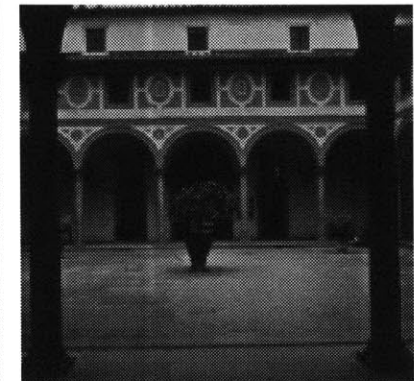
Ospedale degli Innocenti,
sectional perspective seen from the piazza



Different level of detailing marks the progression sequence.



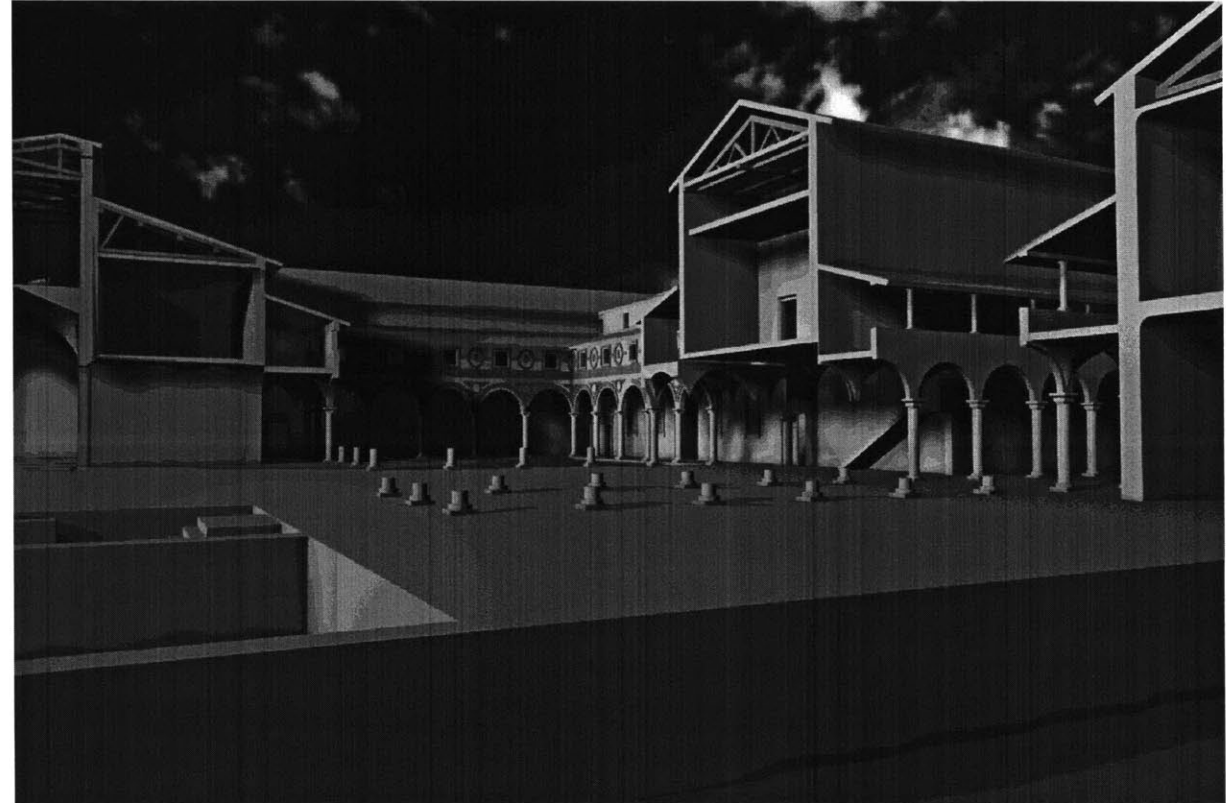
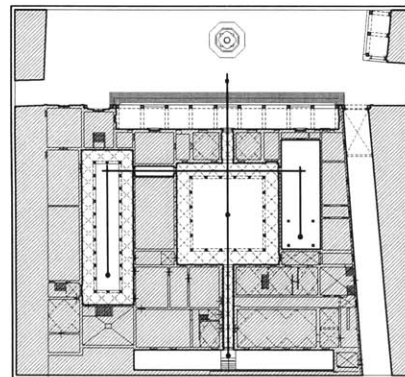
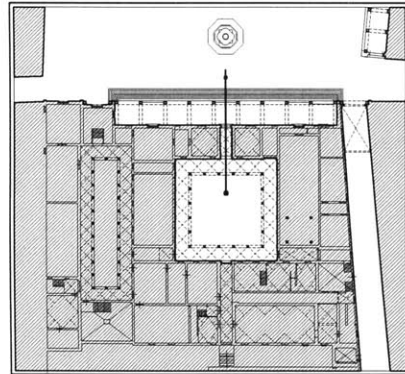
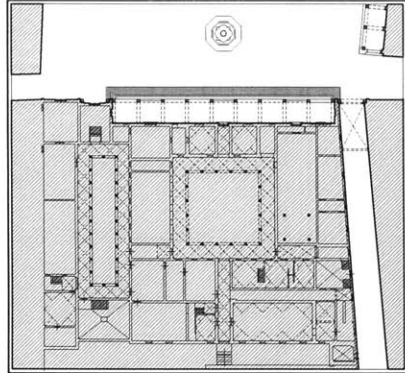
Cortile delli Donne is less decorated



The main courtyard gets more ornament than the small one.

The more we engage in the building, the less formal and ornamented spaces are. This is visible in a section perspective (left) where the arched courtyard

delli Donna received much less attention than the main court and the facade. This change in architectural expression marks the transition sequence.



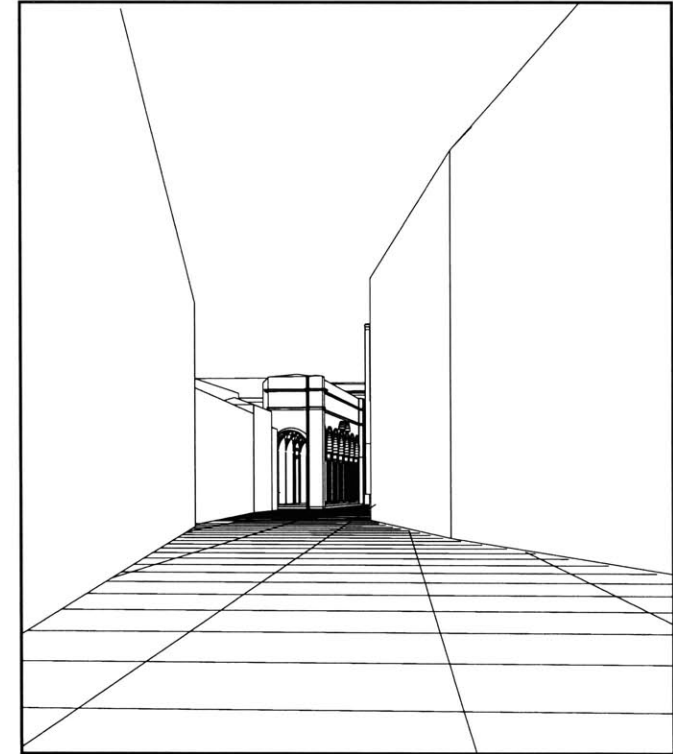
*Ospedale degli Innocenti,
sectional perspective*

*Three stages of the transition:
(top) the loggia is the only
element participating in the
transition
(middle) the transitional
sequence includes the Cortile
degli Uomini
(bottom) the transition in its
wides interpretation*

The transition from urban to architectural space, from the square to the private room is broken into many “in-between” spaces. The transition is no longer understood as moving from white to black (as it is in the Nolli Plan) but it is enriched by variety of gray tonea as these “in-between” spaces.



Via Cesare Battisti (prev. via della Sapienza), The view of the portico of the SS. Annunziata Church from the Piazza San Marco.

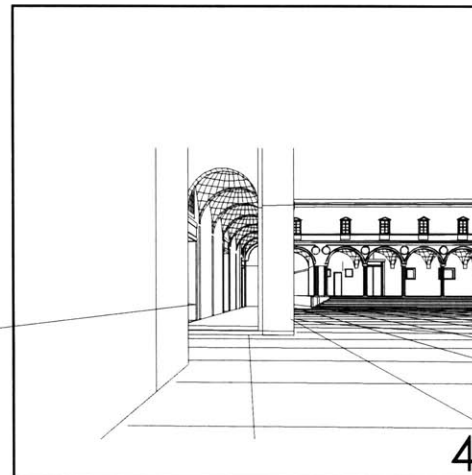
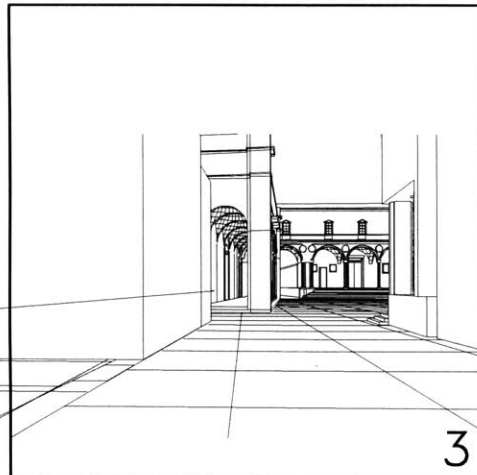
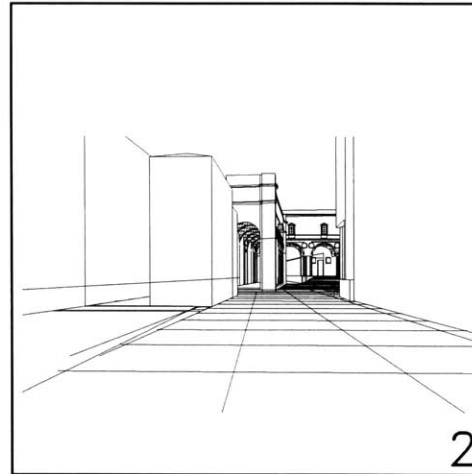
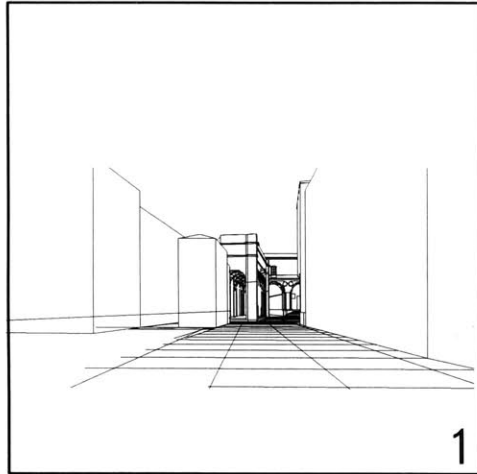


The view of the portico from the Piazza San Marco, the computer generated perspective

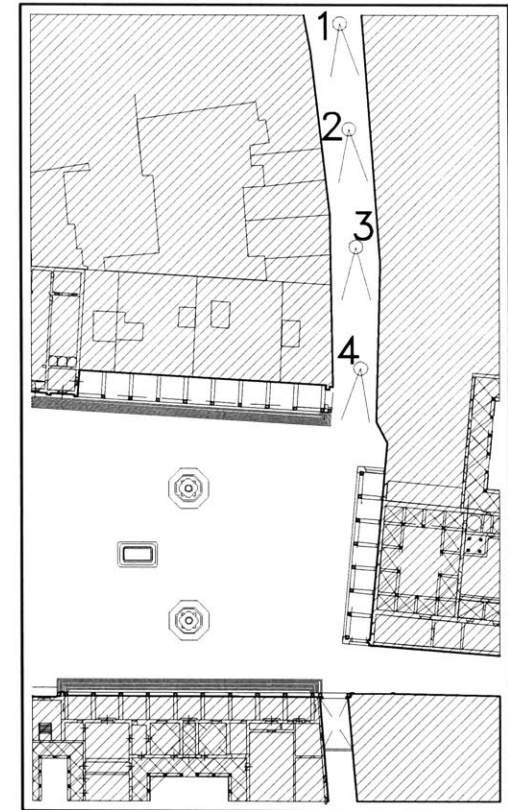
The sequence that involves a group of buildings as well as the city; beyond bilateral relations

A building not only can terminate the street creating the sense of the goal, but it also can engage in the urban life. This active participation results in a variety of forms that have architectural and urban character, simultaneously.

The portico of the SS. Annunziata church creates unusual termination. It obstructs the view but, at the same time, it enables through traffic.

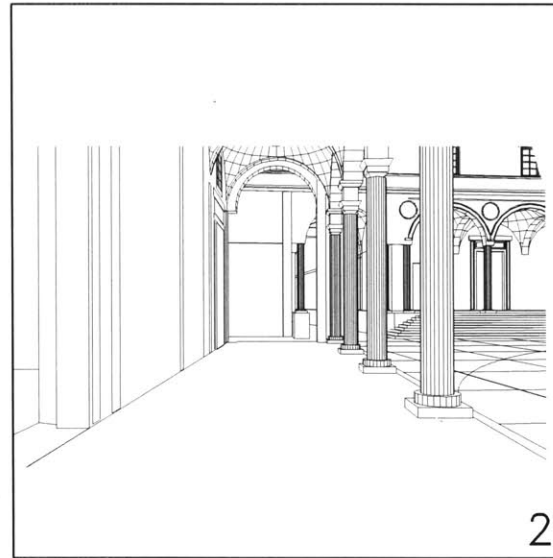
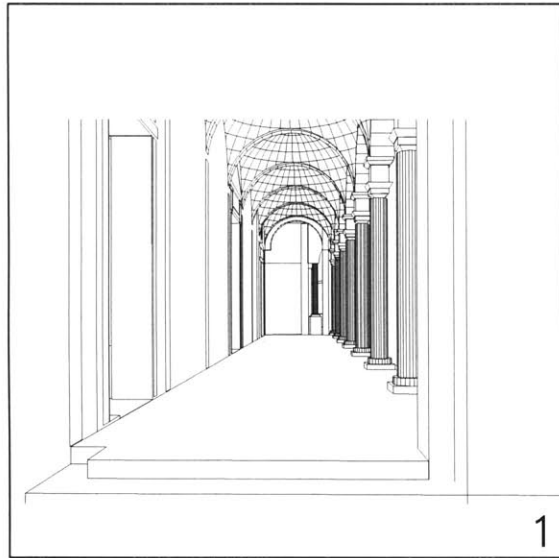


Sequence of perspective views of the portico (numbers refer to the plan)

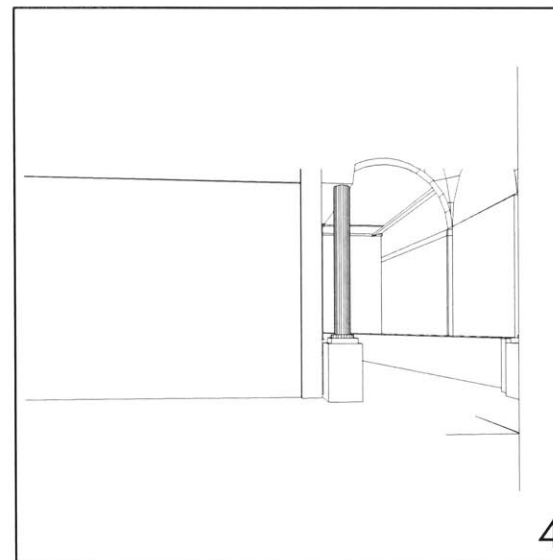
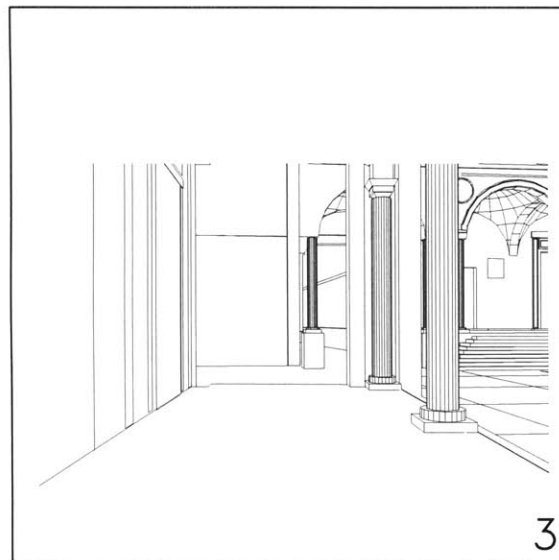


plan

A pedestrian engages in a dialogue with the building while approaching it. The passageway created by the portico of the SS. Annunziata church becomes dominated by the opening of the square at the entrance. The attention of the observer is moved from the portico to the square.

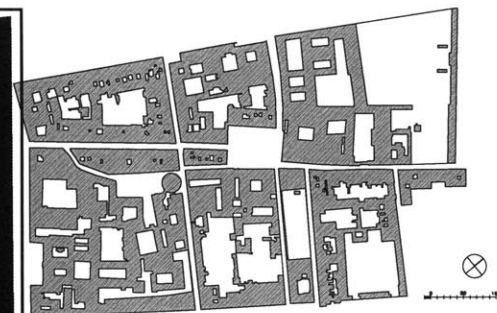
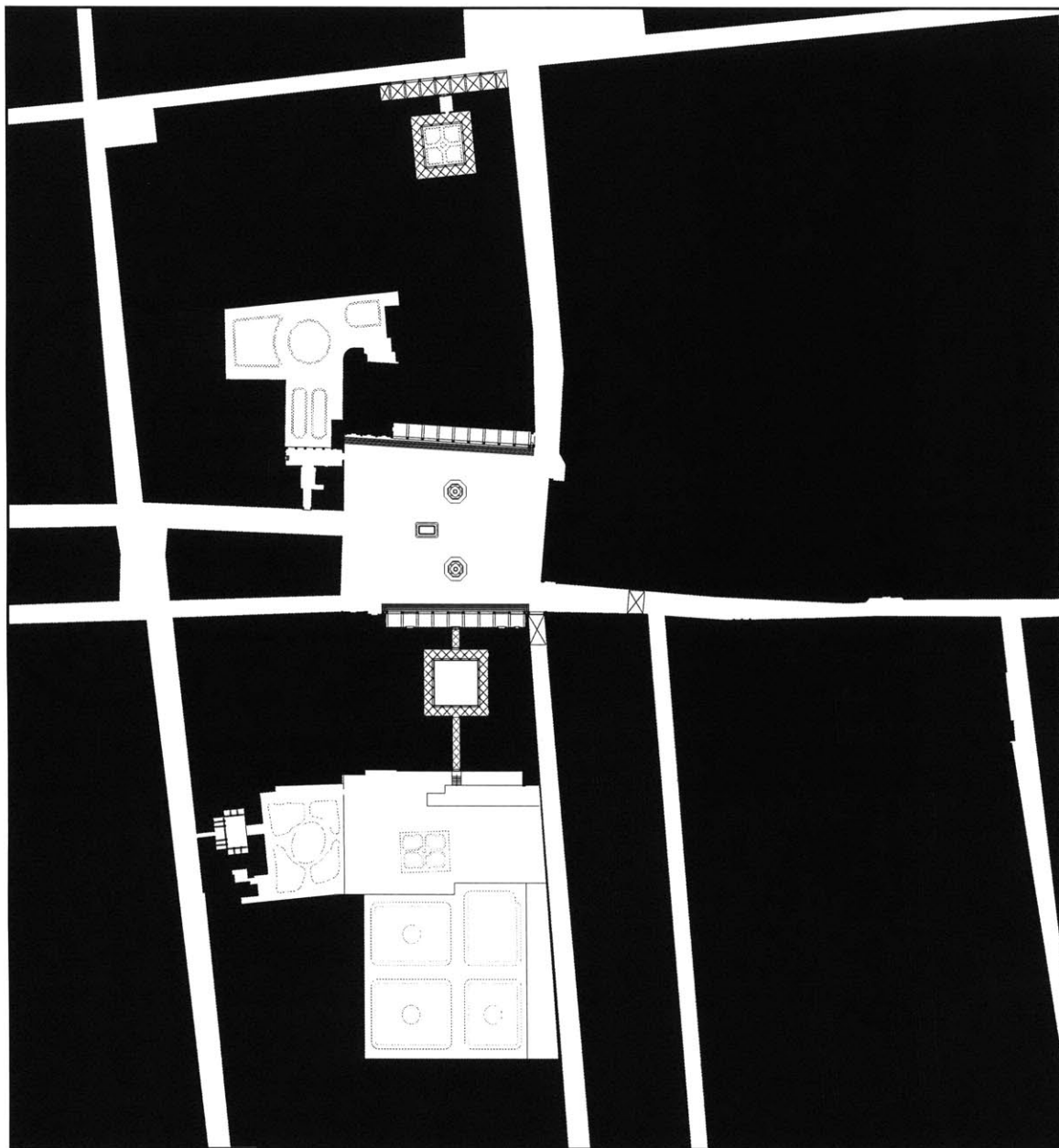


The porch of the loggia serves as a covered sidewalk



If one chooses to walk through the portico, he is led towards the opening in the facade of the Ospedale degli Innocenti. Although the path is not straight in the geometrical sense, it is continuous and 'straight' in perceptual sense (aspect) through the articulation, set of breaks, immediate goals and city landmarks.

Sequence of perspective views while walking through the portico (numbers define the sequence)

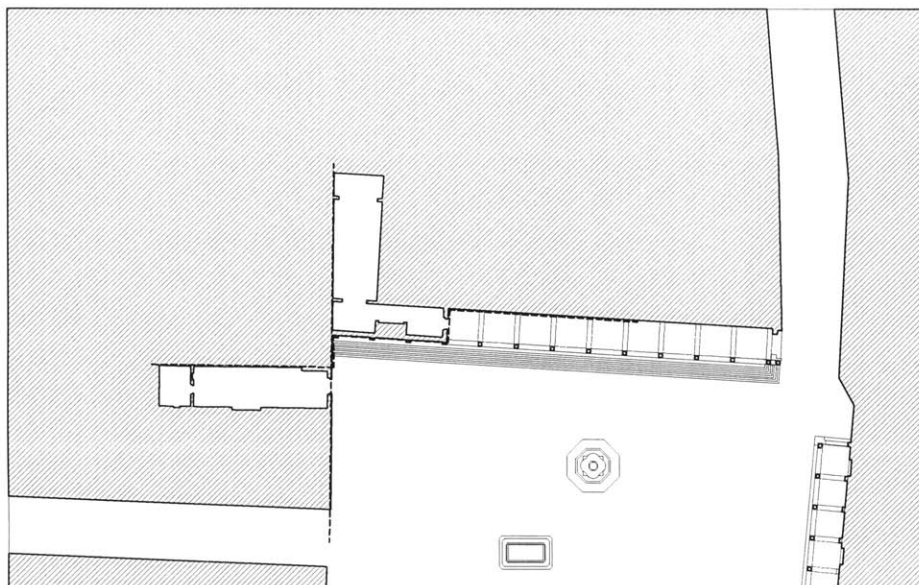


*The area of the Piazza SS. Annunziata;
built versus open spaces*

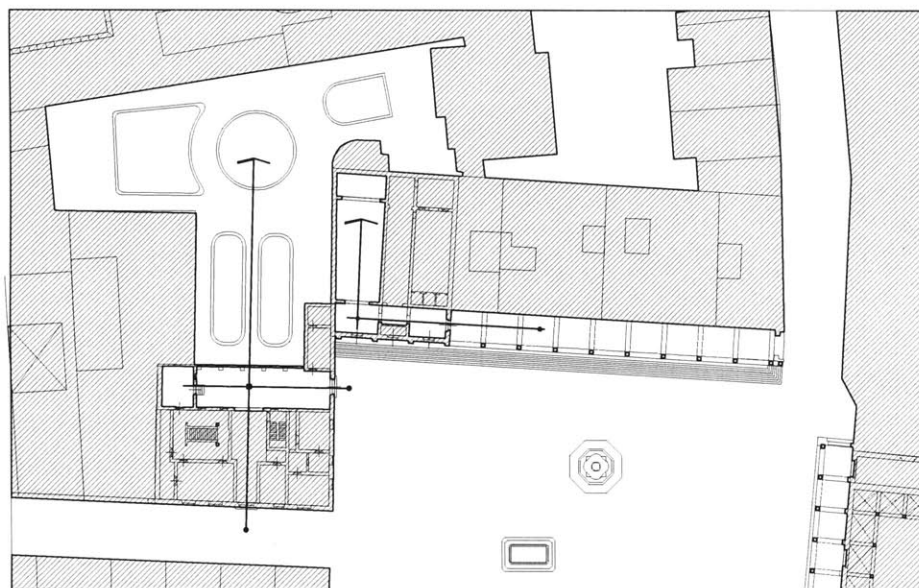
The relation of private build- ings to the city

The composition of the Ospedale degli Innocenti has certain features which were applied a few years later to the palazzos of Florentine patricians: a central axis that runs from the door in the middle of the facade to the garden in the rear and two symmetrical rooms for custodians at the start of that passageway to protect it; a large square court treated like cloister, with arcad; a staircase removed from the courtyard and placed inside the building; The sequence consisting of a doorway leading from the street, the inner courtyard, and the garden became common in Florentine palazzos.

*Buildings that follow the pattern:
street--court--garden*



The chapel and hallway follow the same geometry as the piazza



The hallway of the Palazzo Budini Gattai, the sequence of doors and thresholds.

The inner hall extends the space of the piazza and connects it with gardens behind the facade

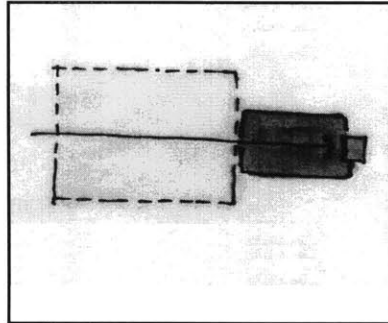


diagram 1

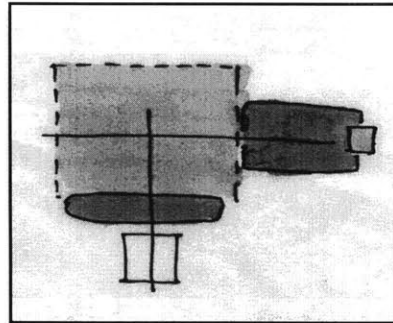


diagram 2

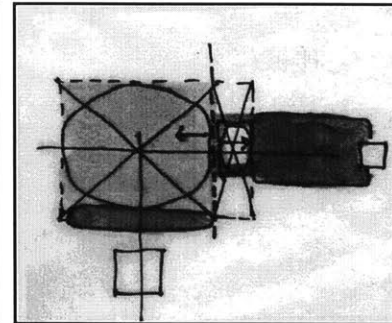


diagram 3

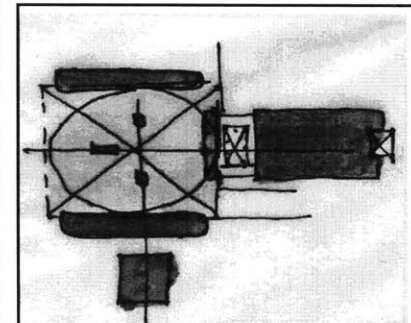


diagram 4



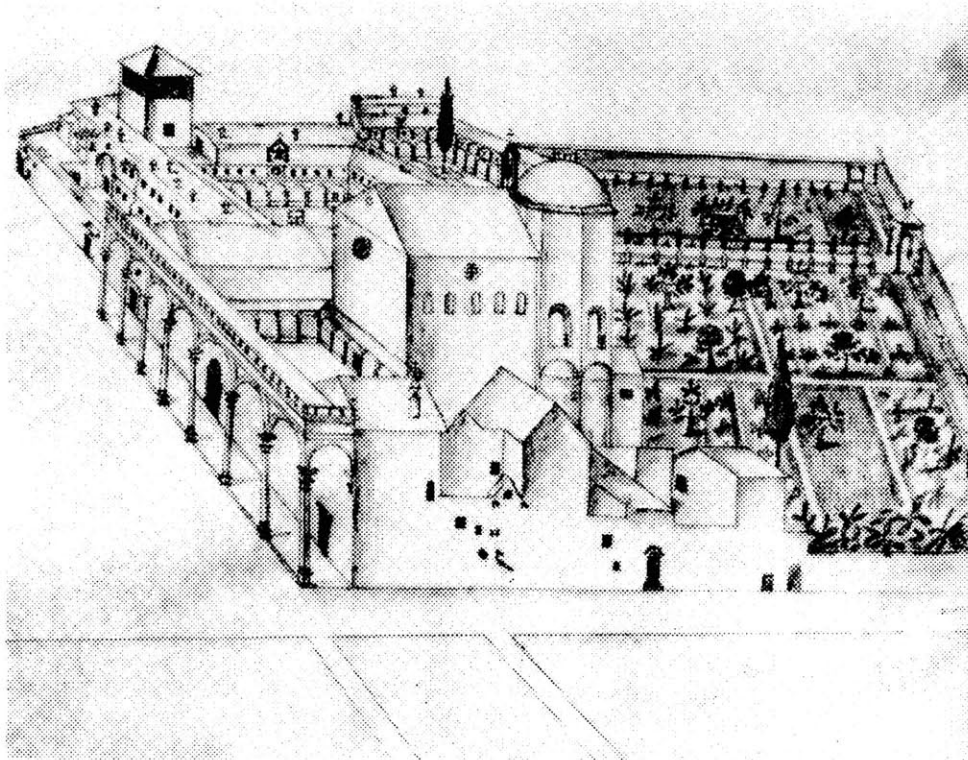
View of SS. Annunziata, ca. 1457

Chronological evolution of the piazza

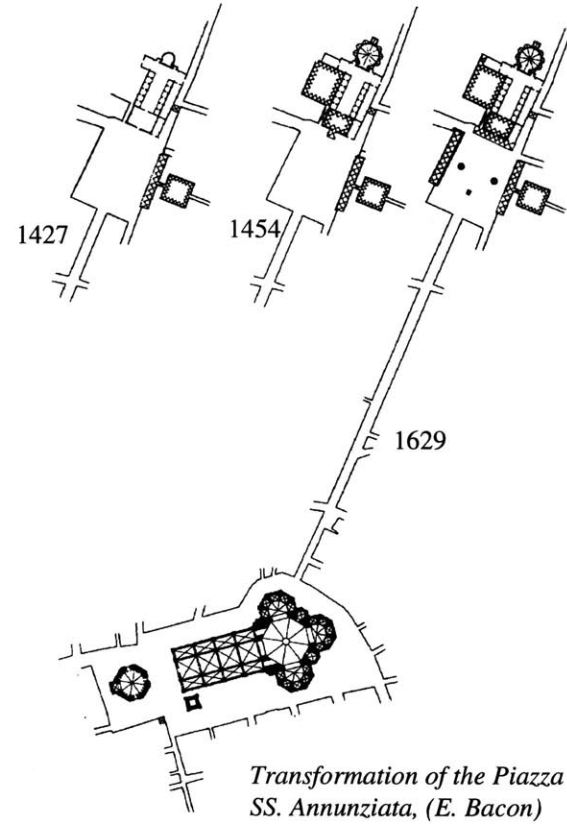
The chronological sequence of the development of the Piazza Santissima Annunziata proves this interdependency of forms. The transformation of the piazza started with the church. The space in front of the church of SS. Annunziata was defined not by formal arrangement but by the events and activities of the place (diagram 1). Although the presence of the Ospedale degli Innocenti related to the activities of the piazza, it also served as an inhabited edge, delineating the southern boundary of the open square. The square then became shared space between the church and the ospedale (diagram 2). In 1454 an atrium was added to the front west elevation of the church, creating a thickened threshold between the domain of the city and the domain of the church (diagram 3). The atrium was designed to enhance the processional experience of the pilgrimage (left). However, this division which was necessary to create the procession, did not consider the formal aspect of the square. Its self oriented presence stimulated a response from the city. In 1516 Sangallo built the loggia defining the northern edge of the square, forcing the church to respond to the existing arrangement (diagram 4). Due to the consistency of the capitol line of the loggia, the atrium of the church had to be heightened, in turn strengthening the presence of the atrium and bringing coherence to the entire piazza (see next page)



*The atrium of the church SS.
Annunziata*



*Anonymous drawing, View of SS. Annunziata,
Florence, early 17th century*



*Transformation of the Piazza
SS. Annunziata, (E. Bacon)*

Conclusions:

My concern is about the relationship between architecture and urban form. We have closely looked at the dependence of individual objects on the form of the city and the temporal influences of forms of monuments that accompany any formal evolution. Because of the visual perception of spaces and spatial patterns of forms, there is an inseparability of such term as architecture and urbanism.

My interest in this issue not only was dictated by the concern about the present urban predicament, but also by my conviction that present *rationale* is no longer valid as a tool in the understanding of the reality. The scientific and analytic mind, with its tendency to break the world into ever smaller parts, has got us to the point that we can hardly look at things globally. My intention is to reconcile isolated, driven by the individualistic thinking architecture with larger concept of unity. However, I do not suggest the platonic universality, but rather the recognition of a simple fact that the existence of any artifact or being is not limited to its physical appearance.

To achieve an interdependency of forms we must refuse to design isolated architecture. This interdependency causes us to reexamine our thinking in terms of overall structure and requires the more careful understanding of time and space.

The interdependency of forms means that any object or group of objects, within time, generates a formal or social

relationship. In other words, the physical coexistence of objects results in the drive towards the higher level of organization.

We could say that these objects get covered over time with the common idea, or a layer of patina defined by the historic era, or the spirit of place (*Genius Loci*). This is the case of the Ospedale degli Innocenti and the church of SS. Annunziata. As a result of their proximity and interrelationship the dialogue the architect established has continued to evolve within time. This inevitably led to the perceptual merge of the piazza and building. At this level of interdependency, it would be difficult to look at them separately but only as a one larger structure which shares the qualities and values. This sharing means that the quality of the spatial sequence that forms the notion of the church (procession road) is dependent on the quality of the square which is formed by the loggias of the Ospedale and other buildings.

Edmund Becon, while discussing the Piazza della SS.

Annunziata, formulates the rule of a second man. He says that the second man, not the creator, establishes the fact that the style or fashion is continued and becomes prevalent. This observation was essential for my studies and stimulated my inquiries.

It is natural to say that the earlier fact influences the later, but seldom, if ever, do we consider opposite interaction.

73 This opposite interaction of objects, the *feedback* from their

influence, goes usually unnoticed. This newly discovered relation creates a completely new condition. The relation becomes dynamic and non linear, where the past occurs together with the present. However, the process is never complete, but it is always at the stage of process. This means that earlier circumstances influence subsequent events, but at the same time, present situation cause our reinterpretation of primary issues, (those that dominated our thinking). However, these interactions do not function on the same level. The past influences the physical form of objects, while the present changes the meaning of the past. Thus, the space is predetermined in its nature and the interdependency is simply a result of this condition.

Bibliography

Alexander, Christopher, Ishikawa, Sara, and Silverstein, Murray, *A Pattern Language*, Oxford University Press, New York, New York, 1977.

Alexander, Christopher, *Timeless Way of Building*,

Brown, Beverly Louise, *The tribuna of SS. Annunziata in Florence*, Northwestern University, Ph.D. Dissertation, Chicago, Illinois, 1978

Brown, Beverly Louise, *The patronage and building history of the tribuna of SS. Annunziata in Florence. A reappraisal in light of new documentation*, [in:] *Mitteilungen des Kunsthistorischen Institutes in Florenz*, Vol XXV/I 1981, pp.59-146

Burke, Peter, *The Italian Renaissance, Culture and Society in Italy*, Princeton University Press, Princeton, New Jersey

Becon, Edmund, *Design of Cities*, A Studio Book, The Viking Press, New York, New York, 1974

Borsi, Franco, *Le Piazze*, Istituto Geografico de Agostini, Novara, 1975

Collins, George R., and Collins Christine Crasemann, *Camilo Sitte: The Birth of Modern City Planning*, Rizzoli, New York, New York, 1986

Dennis, Michael, *Court & Garden*, M.I.T. Press, Cambridge, Massachusetts, 1988

Fergusson, James, *History of Architecture on all Countries*, John Murray, Albemarle Street, London, 1865.

Fletcher's, Banister, *History of Architecture*, Charles Scribner's Sons, New York, New York, 1975

Geist, Johann Fridrich, *Arcades, the history of building type*, The MIT Press, Cambridge, Massachusetts, 1983.

Janson, H. W., *History of Art*, Harry N. Abrams, Inc., Publishers, New York, New York, 1963

Kahn, Louis, I., *The Room, the Street and Human Agreement*, p.7 *Architecture + Urbanism*, Vol.3, No.1, 1973

Norberg-Schulz, Christian, *Architecture: Meaning and Place, selected essays*, Electa/Rizzoli, New York, New York,

Mitchell, William, J., *The Logic of architecture: Design, Computation, and Cognition*, The M.I.T. Press, M.I.T., Cambridge, Massachusetts, 1990.

Jordan, R. Furneaux, *A Concise History of Western Architecture*, Thames and Hudson, London, 1969.

Letarouilly, Paul, *Edifices de Rome Moderne*, Princeton University Press, Princeton, New Jersey, 1984..

Olesen, Peter, *Copenhagen Open Spaces*, Borgen, Copenhagen, 1990

Rowe, Colin, & Koetter, Fred, *Collage City*, The MIT Press, Cambridge, Massachusetts, 1978

Sennett, Richard, *The Fall of Public Man*, Alfred A. Knopf, New York, New York, 1977

Stravinsky, Igor, *Poetics of Music in the form of six lessons*, Harvard University Press, Cambridge, Massachusetts, 1970.

Dawny Gdansk, Zaklad Narodowy im. Ossolinskich, Wroclaw, 1990

Appendix

EVOLUTION OF THE PIAZZA DELLA SS. ANNUNZIATA

- 1082 First oratory
- 1233 The Servite Order was founded
- 1250 Land was acquired and the work on the new oratory was begun.
- 1252 The painting of the *Annunciation* was started. It was found that the image works miracles. Church becomes the center for pilgrims
- 1255 A new street was laid to connect the church to the city.
- 1284-1333 New fortification for Florence. Expanded city includes the area of the SS. Annunziata within its borders (incorporated into the city)
- 1364-1371 The transformation of preexisting basilica into a single nave church with side chapels.
- 1419-1427 Construction of the Loggia of the Ospedale degli Innocenti by Brunelleschi.
- 1427 Land to the south of the Ospedale was acquired
- 1426-1445 The main courtyard of the Ospedale, cortile degli Uomini, was built
- 1430 Facade of the Ospedale was extended to the south
- 1437-1441 Cortile delle Donne finished
- 1439 Second floor of the Loggia was built.

- 1444 Michelozzo starts the rebuilding of the church of SS. Annunziata.
- 1454 Construction of the atrium of SS. Annunziata and one bay entrance porch on the square.
- 1476 Tribuna of the SS. Annunziata finished
- 1488 Steps of the Hospital loggia finished
- 1516 Sangallo builds the loggia delli Servites opposite the Ospedale degli Innocenti.
- ~1600 extension of the entrance porch of SS. Annunziata, creating one entry element (loggia) to the church, chapel, and the convent. All these three spaces are seen as a one structure
- 1608 The equestrian statue was presented to the public.

After Adding one more floor to the atrium of the church. The atrium becomes more similar to the loggia and the courtyard of the Ospedale than to the adjacent court of the convent.

XIX c. The atrium of the church is covered with a glass roof.

Credits of Illustrations

p.8 left, from *Ten Book of Architecture*, Andrea Palladio, Pl.58
p.8 right, from *Courts and Gardens*, Michael Dennis
p.15 from *Le Piazze*, Borsi, Franco p.347
p.20 from *Le Piazze*, Borsi, Franco pp. 76-77
p.22 from *Filippo Brunelleschi*, by Battisti p.60
pp.23,24 from Diderot/D'Alembert, *Encyclopedie Recueil de Planches* [in: Daidalos 15 p.61]
p.24 right, from *Elementy kompozycji urbanistycznej*, Kazimierz Wejchert p.104
p.25 right, from *History of Art*, Janson p.138
p.26 from *Filippo Brunelleschi*, by Battisti p.59
p.27 from *Firenze*, atlas Fanelli
p.28 from *Filippo Brunelleschi*, by Battisti p.54
p.36 from *Firenze*, atlas Fanelli
p.37 from *Firenze*, atlas Fanelli
p.44 top, from *Firenze-studi e ricerche sul centro antico* p.23
p.45 from *Firenze-studi e ricerche sul centro antico* p.209
p.30 from *Firenze-studi e ricerche sul centro antico* pp.96,98
p.47 right from *Le Piazze*, Borsi, Franco p.265
p.52 bottom, from *Firenze-studi e ricerche sul centro antico* p.137
p.52 right, from *Firenze-studi e ricerche sul centro antico* p.22
p.53 from *Le Piazze*, Borsi, Franco p.264
p.58 bottom from *Brunelleschi*, Luporini, Eugenio il.168
pp.58,59 top from, *Brunelleschi*, Luporini Eugenio
p.60 top, from *Spedale degli Innocenti di Firenze*, Cherici, Ugo

p.63 top from *Le rete magical Filippo Brunelleschi*, Bartoli Lando il.107
p.66 from *Firenze-studi e ricerche sul centro antico* p.111
p.68 from *Le Piazze*, Borsi, Franco p.266
p.70 right from *Palazzo di Firenze*, Bucci, Mario il.63
p.71 from *Filippo Brunelleschi*, by Battisti p.50
p.71 from *Michelozzo architetto*, Morisani Ottavo il.135
p.71 from *Tribuna of SS. Annunziata* Beverly Brown pp.70,73